DOCUMENT RESUME

ED 193 407 UD 021 001

AUTHOR Canino, Ian A.; And Others
TITLE The Puerto Rican Child in New York City: Stress and Mental Health. Monograph Number 4.
INSTITUTION Fordham Univ., Bronx, N.Y. Hispanic Research Center.
SPONS AGENCY National Inst. of Mental Health (DHEW), Rockville, Md. Center for Minority Group Mental Health Programs.
PUB DATE 80
GRANT 1-R01-MH-30569-03
NOTE 128p.

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Children; Demography; Elementary Education; Family Characteristics; *Hispanic Americans; *Mental Disorders; Neurological Impairments; Psychological Patterns; *Puerto Ricans; *Risk; *Sociocultural Patterns; Socioeconomic Influences; *Stress Variables
IDENTIFIERS New York (New York)

ABSTRACT

The main objective of this study was to review the literature and synthesize data on the mental health of Puerto Rican children in the New York City area to show that they are at higher risk of developing mental health problems than other children. Chapter 1 of this monograph reviews the development of the concept of stress and its linkage with physical and psychological disorders. A demographic profile of Puerto Ricans in the United States is presented in Chapter 2 to demonstrate the socioeconomic characteristics that make this population more susceptible to disproportionate degrees of stress. The relationship of central nervous system dysfunction, stress, and environmental factors is discussed in Chapter 3, showing that Puerto Rican children are at greater risk for central nervous system impairments. Chapter 4 presents a summary of research comparing the mental health of New York Puerto Ricans to other groups. A mental health profile of Puerto Rican children is developed in this chapter. Conclusions of the study are presented in Chapter 5. The data indicates that Puerto Rican children are, in fact, subjected to extensive socioenvironmental stress and are, therefore, at high risk of having mental health disorders. Research and policy implications are discussed. (MK)

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THE PUERTO RICAN CHILD IN NEW YORK CITY: STRESS AND MENTAL HEALTH

By

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The Hispanic Research Center is supported by Research Grant 1RO1 MH 30569-03 from the National Institute of Mental Health, Center for Minority Group Mental Health Programs.

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PREFACE

There has been no deliberate appraisal of the unique mental health status and needs of Puerto Rican children in the New York City area. We hope this monograph on Puerto Rican children will begin to rectify this omission and act as a springboard for further policy-relevant research in an area so vital to the well-being and formation of future generations.

The major objective of this study is to bring together the data on the mental health of Puerto Rican children, collected by major agencies in the New York City area, and to review the clinical, epidemiological, and sociocultural literature on the mental health of Puerto Rican children. The main hypothesis of this monograph is that Puerto Rican children experience a greater array of potentially stress-inducing events than do other children and, thus, they are at higher risk to mental health problems. It is our position that the child who is disproportionately exposed to stress factors at each successive phase of development is more likely to manifest a stress response. It is not only the adaptation requirements of each stress experience, but also the cumulative effect of repeated exposure which may cause later mental health problems. At the same time, the child who is exposed to excessive stress in the early developmental stages may become more vulnerable to stress at subsequent stages.

Almost all studies show higher rates of mental illness, measured by hospitalization, for migrant groups than for nonmigrant native-born groups. Several aspects of the transition from one society to another apparently constitute a hazardous situation leading to increased risk of psychiatric hospitalization. Among the sources of socioenvironmental stress are the subordinate socioeconomic position of the Puerto Rican population which is compounded by the nature of the migration experience, the existence of pervasive racism, and the multiple adjustments required by movement into a highly industrialized and urbanized *milieu*. We believe that a large

number of Puerto Rican children are exposed either directly or indirectly, through their parents, to life situations which require change and adaptation. In general, such change is potentially stress-inducing, with the actual manifestation of a stress response dependent upon the effectiveness of the child's coping or mediating mechanisms.

All of the factors mentioned above impact heavily upon the structure of the Puerto Rican family, endangering its function as a social support network. In addition, it is suggested that the educational system, a potential source of stability for a child under stress, is itself characterized by considerable upheaval and perhaps lacks the ability to provide a supportive dimension to the life of the Puerto Rican child. This situation further amplifies the stress to which the Puerto Rican child is exposed.

In Chapter 1 the development of the concept of stress and its linkage with physical and psychological disorders are reviewed. The discussion is deliberately kept as general as possible. It is in no way meant to represent a major review of the stress literature or the current state of stress research, but as a general introduction for the reader to the concept of stress and to stress research. We are concerned with stress only insofar as its origin and effects aid in explaining the high risk of Puerto Rican children to mental health problems.

We present a simple model of the stress sequence, displaying the relationship between stressors, mediating factors, stress, and stress responses. We then review the literature which describes the relationship between stress and social change. Considerable research evidence is cited to support the contention that exposure to certain type of socioenvironmental change is potentially stressful and may result in physical and psychological disorders.

Chapter 2 presents a demographic profile of Puerto Ricans in the United States to demonstrate that the socioeconomic characteristics of this population render it susceptible to disproportionate exposure to stressful life events. We also comment on the status and functioning of the major social support networks available to the Puerto Rican child, the family, and the school system.

Chapter 3 introduces the concept of central nervous system dysfunction and its relationship to stress and environmental factors. It demonstrates the extent to which Puerto Rican children are at disproportionate risk to such impairment as indicated by several indices of maternal health. We present data describing the extent to which Puerto Rican public elementary school children are evaluated as handicapped, as well as the types and severity of these handicaps.

In Chapter 4, we present a brief summary of research which has examined the mental health of New York Puerto Ricans compared

to that of other groups. We then develop a mental health profile of Puerto Rican children based upon citywide data collected by the New York State Department of Mental Hygiene.

Chapter 5 brings together the study's conclusions from the review of the relevant literature and from the analysis of the data collected from major agencies in New York City. The conclusions show that Puerto Rican children are subjected to extensive socioenvironmental stress and, thus, they are at high risk to mental health problems. Research and policy-relevant recommendations are then presented in an effort to improve the mental health welfare of Puerto Rican children.

This monograph is the fourth in a series published by the Hispanic Research Center to increase our store of knowledge about the Hispanic community in the United States The first monograph reported on the health conditions of New York City's Puerto Ricans; the second presented a study of the intermarriage patterns of New York City's Hispanic populations; and the third documented the Hispanic experience with criminal justice.

The Hispanic Research Center was established at Fordham University in 1977, under a grant from the National Institute of Mental Health, to work toward five major objectives: (1) to conduct interdisciplinary research on priority issues relevant to the mental health of Hispanic populations, (2) to increase and upgrade the number of Hispanic scholars experienced in research in the mental health-related disciplines, (3) to provide technical assistance to Hispanic behavioral scientists, professionals, and organizations working to remedy mental health problems in Hispanic communities, (4) to develop links between individual Hispanic researchers and between these researchers and persons involved in the formulation and implementation of Hispanic-relevant public policy, and (5) to disseminate information on the mental health of the Hispanic population.

We hope that the data presented here will stimulate an interest in the physical, psychological, and emotional stresses that Puerto Rican children experience and lead to the formulation of social policy and practice needed to alleviate these stresses.

Lloyd H. Rogler

Fordham University
August 1980

Acknowledgements

The research that made this monograph possible was conducted by the Hispanic Research Center (HRC) of Fordham University. Jose Alonso, a former research associate of the HRC, made the initial contacts with many interested groups and city agencies to ascertain what information, if any, was available on Puerto Rican children. Rose Marie Hurrell, Isaura Linares, Damaris Lugo-Frey, Sally Romero, and Belen Zayas diligently reviewed the literature and submitted critical reports on the material in review. Helen Rodriguez Frias provided assistance in reviewing the chapter on health status and neurological deficit and offering valuable suggestions. Irma Morillo and Mercedes Rivera typed numerous drafts of the manuscript and provided varied secretarial services, as did Elizabeth Collado who also assisted in compiling the bibliography. Elizabeth Ospina contributed her administrative skills to the project. Janet Cohen applied her professional skills in reworking successive drafts of the manuscript and producing a polished final version. Stasia Madrigal prepared the final draft for the printer

We are particularly grateful to the New York City Board of Education and to W. Scott Weijola of the Division of Program Support in the New York State Office of Mental Health for making their data available to us. We wish to thank all the community organizations and concerned individuals who participated in the preparation and completion of this study. Their efforts, we hope, will help to increase our understanding of the mental health status of Puerto Rican children in New York City.

New York City
August 1980

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1

STRESS AND SOCIAL CHANGE

The medical and social sciences -- psychiatry, psychology, physiology, medicine, epidemiology, and sociology -- have for some time been interested in a wide range of phenomena given the common label *stress*. However, the types of phenomena which each discipline studies vary widely, and research methodology also has varied, reflecting different backgrounds and interests. Symptomatic of the lack of consensus existing in stress research is the conceptualization of stress as a stimulus, a response, and a multidimensional interactive process, not totally stimulus or response. The important point is that among those concerned with stress-related research there is no single, agreed-upon definition of stress.

The basis for systematic research on the effects of stress was laid down by Cannon (1929) in his observations of bodily changes related to pain, hunger, and the major emotions. He clearly demonstrated that the stimuli associated with emotional arousal cause changes in basic physiological processes. While Cannon was concerned primarily with the survival functions of internal physiological adjustments produced by stressful conditions and strong emotions, he was aware also of the potentially pathogenic relationship between emotional arousal and bodily change. His work provided basic support for the later argument that stressful life events are potentially harmful to the individual.

Building upon the work of Cannon, Adolf Meyer (1951) wrote on life events and their effects, advocating the use of the life chart as a tool in medical diagnosis. He proposed that life events might play an important part in the etiology of a physical disorder and that such events need not be bizarre or catastrophic to be pathogenic. He suggested that even the most normal and necessary life events are potential contributors to the development of pathological conditions.

Another pioneering stress researcher, Hans Selye, conceptualized stress as a set of nonspecific physiological reactions by organisms

to various noxious environmental agents. In general terms, Selye defined stress as "a specific syndrome which consists of all the nonspecifically induced changes within a biological system" (1956: 54). This syndrome, which he termed the General Adaptation Syndrome or GAS, is a particular set of physiological processes and states which occurs in the same overall pattern in response to many types of stressors and is species-wide in form. The GAS, modeled after Cannon's observations of animal survival responses, entails three sequential phases -- alarm, resistance, and exhaustion - representing the body's adaption to a stressor and enabling the body to maximize its resistance to it. If a particular form of adaption is not effective, it may contribute to the development of many diseases, which Selye referred to as "diseases of adaption."

As a physician and endocrinologist Selye's major concern was with the identification and description of glandular changes as the major characteristics of the GAS. While he broadened his initial conception of noxious environmental agents to include any demand on the organism that exceeds a certain level of intensity (1976), his model and his research have referred to chemical, physical, and organic agents rather than symbolic conditions or events.

Selye's conceptualization of stress has been extended to include its utilization as a mediating variable in regulating the impact of the social and interpersonal experiences of the individual. A major contributor to this theoretical evolution was Harold G. Wolff who conceptualized stress as the general and ever-present state of a living organism in response to the existing level of adaptive demands (1968). In regard to the sequence of illness, Wolff believes that man's social environment and past experience, including biological factors and life events, have only a small influence on the form illness takes, but a major influence on its timing and course. He suggests the adoption of a general nonspecific conception of the role played by stress in the onset of illness.

Supplementing the above approach, Cassel, an epidemiologist, focused on the social changes that have been associated with the health status of a group or community. Cassel's emphasis is on the influence of position in the social structure and social support systems on disease susceptibility. In rejecting the mono-etiological model of disease causation, he concludes that "variations in group relationships, rather than having a specific etiology, would enhance susceptibility to disease in general" (1974: 1042).

The suggestion is that those in the lower strata of the social order are more likely to experience social changes which have the potential to contribute to disability. At the same time, it is this group which is most likely to lack adequate support systems to mediate these stressors. The result for such a group would be a high rate of stress responses, including a variety of physical and

psychological disorders.

Thus, both theorists and research scientists have devoted considerable attention, on the one hand, to the correspondence between social relationships, social conditions, and life changes and, on the other hand, to the manifestations and distributions of various diseases. This notion of socially induced stress as an important factor in the course and expression of disease has achieved wide acceptance.

However, for some researchers, the stress concept does not explain why some people are more susceptible to illness than others. Rather than seeing the presence of stress as a direct cause of disease, these researchers see it as a broad descriptive concept, its usefulness deriving from its role in identifying productive lines of research in the study of disease etiology which involve external events influencing individuals and populations and their perception of such events. For example, Kasl-Kan and Struening suggest (1976: 583) that proponents of revised etiological models generally associate illness onset with at least five potentially relevant factors: the presence of stressful environmental conditions; perception by the person that such conditions are indeed stressful; his relative ability to cope with or adapt to these conditions; his genetic predisposition to disease; and the presence of a disease agent.

In the approach we have adopted, we use a general conceptualization of illness vulnerability which suggests the following sequence of factors: social stressors, mediating factors, stress response, vulnerability to illness. While this is a linear conceptualization, we suggest that there are feedback mechanisms operating simultaneously at each point in the sequence and that the process is essentially cyclical. A social stressor may be defined as any set of circumstances whose advent signifies change in the individual's life pattern. These circumstances or stressors alter the individual's conditional susceptibility to illness at a particular point in time and may serve as precipitating factors for illness onset.

Mediating factors are of special interest in that they contribute to our understanding of differential sensitivities to social stressors. They include characteristics of the stressful event, the individual, and the social support system that influence the perception of stressors and their impact on the individual.

The stress response is simply the organism's reaction to stressful conditions. It consists of a pattern of physiological reactions which can be expressed as physical and emotional symptoms or as more positive behavioral adaptions. Predisposing factors refer to long-standing characteristics of either the individual or his environment that may alter the person's susceptibility to illness. Precipitating factors, in contrast, influence the timing of illness onset and usually refer primarily to transient current conditions or characteristics.

The relationship between changes in the social environment and vulnerability to stress and stress-related disease has long been recognized. However, questions about selective vulnerability remain unanswered: Why do some people become ill when exposed to difficult social events while others do not? Why do some groups appear to be more susceptible to illness in the presence of social change?

In the following review we consider research that has concentrated on the relationships among social change, stress, and illness. While our ultimate concern is the relationship between stress and the onset of mental illness, we consider at length a major body of research bearing upon social change and all types of illness onset. We examine two categories of change: one consisting of events affecting large groups; the other consisting of life events and changes specific to individuals. We also discuss those factors which combine to mediate the perception and impact of stressful events.

There has been considerable research concerning the impact of macro processes of social change on the health of populations. Researchers working within sociological, epidemiological, and psychiatric perspectives have often compared illness rates prior to and after the alteration of the social setting or have compared rates between those who are exposed to social change and those who are not.

Heightened levels of social stress have been found to be associated with major alterations in the social setting. A common element of these processes was suggested by Cassel, who states that these alterations in the social fabric are characterized by a lack of feedback to the individual regarding acceptable behaviors in these situations and that it is this communication gap which is a major source of stress during instances of wholesale change (1975). Groen (1971) pointed out that alterations in the social fabric require coping, adaption, defense, and repair and if these processes are inadequately carried out the experience of stress is intensified. Similarly, Jaco (1970) noted the clear association between social change and certain types of mental illness and concluded that social change is a general hazard to mental health. Within this context it appears that when traditional support systems are either disrupted or inaccessible, the stress normally associated with social change is intensified. Therefore, instances of large-scale change are not only potentially stressful themselves, but they become doubly stressful when they involve disruption of the relationship between an individual and the existing support systems.

The types of social-change phenomena long recognized as factors associated with increased rates of certain types of mental illness and chronic physical disorders are migration and geographic mobility. Cassel (1970) in a review of research on this topic cites

more than twenty studies in which a relationship was found between migration and high blood pressure. Geographically mobile men have consistently been found to have higher levels of coronary heart disease than geographically stationary men when such variables as diet, smoking, and family history are controlled. Similarly, job transfer requiring geographic movement has been found to be related to a significantly greater incidence of minor illness and physical complaints (Graham and Reeder, 1972).

Many studies have examined the relationship between migration and mental illness. The results of these studies lack uniformity. How social processes are related to mental illness is understood only imperfectly, although the discontinuities between the characteristics of the migrants' point of origin and those of the point of destination appear to be of considerable importance in projecting the stressors to which migrants are exposed. Movement into new and unfamiliar environments appears to increase susceptibility to psychological as well as physical problems. This susceptibility need not be immediately apparent after the transition and may not occur at all, but the risk of increased susceptibility is present.

Two major perspectives have been offered to explain the apparently high admission rates of migrants to mental hospitals. One approach derives from what is commonly referred to as the "self-selection theory," that mental disorders precipitate migration: those who are marginal or unstable at the point of origin are more likely to migrate. During the early part of this century most hospital statistics in the United States showed that the rate of admission of foreign-born was considerably higher than that of native-born. However, these studies did not systematically consider the effects of age, sex discrimination, social class, or occupational structure upon the observed admission differences.

Adopting this position, a number of studies examined the mobility of hospitalized schizophrenic patients, prior to commitment. In one of the early studies in the United States, Tietze, Lemkau and Cooper (1942) observed that individuals who moved within cities had a higher prevalence of personality disorders than those who moved into a city from the outside. Gerard and Houston (1953), in a study conducted at Worcester State Hospital, concluded that certain urban areas "attract" schizophrenics rather than "breed" them, and Hare (1956a, 1956b) also found evidence in support of the "drift hypothesis."

While some research has supported the hypothesis of differential movement of mental patients, other research has concluded that mental patients are not mobile (Lapouse *et al.*, 1956, 1958; Plank, 1959; Freehman, 1960; Clausen and Kohn, 1960). The research of Hollingshead and Redlich (1958) demonstrated that schizophrenic patients committed to hospitals from slum areas do not "drift"

here as a result of their illness. A subsequent study by Leighton *et al.* (1963) concluded that "self-initiated" moves after the age of twenty are not related to mental disorders. Rogler and Hollingshead (1975) reconstructed the migratory history of persons in Puerto Rico who were diagnosed as nonpsychotic and persons diagnosed as schizophrenic to examine the possible relationship between geographic movement and severe mental health problems. They found mental health status not significantly related to rural-to-urban migration, age of migration, mean length of residence after migration, number of trips outside of migration area, number of specific residential moves throughout the person's lifetime, or the length of time lived in each residence. No matter how the data were examined, no relationship was found between geographic mobility and schizophrenia. However, these studies taken together still yield ambiguous conclusions regarding the relationship between residential mobility and mental illness.

The other perspective on high admission rates of migrants to mental hospitals assumes that change in environment, with the ensuing problems of social and cultural adaption, may cause stress which is reflected in the hospital statistics. Among the suggested sources of this stress are the migration process itself, the particular characteristics of the migrants, the potentially stressful discontinuities inherent in such situations, and the chronicity of these stressors.

Two extensive studies in the 1930's and the 1940's by Odegaard in Norway and Malzberg and Lee in New York yielded results which supported the position that the process of migration, even among native-born groups, generates sufficient stress to lead to the development of mental health problems. Odegaard, examining the rates of illness of native-born Norwegians, found no evidence to support the position that higher rates of mental illness in migrants are attributable to their ethnic origin or that unstable people are more apt to immigrate.

Malzberg and Lee (1956) and Malzberg (1962) studied both migrants from abroad and migrants within the United States in their analysis of mental illness among persons admitted to psychiatric hospitals in New York State. They were the first to report that, in the United States, interstate migrants had first admission rates considerably higher than those of both foreign-born migrants and nonmigrant natives. Additional research in this area has generally confirmed the observation of higher hospitalization rates for migrants than for either foreign-born or nonmigrant native-born. Thus, migration, itself, regardless of the characteristics of those moving, appears to have an independent effect upon mental health and the development of mental health problems.

While most research was designed to control for age, sex, race,

or place of birth, as the analysis of rate differentials progressed it became clear that other variables are related to the observed differentials in hospitalization rates. The research questions then became: Are the higher rates manifested by migrants largely due to intervening variables such as race, occupation, social class, education, and residence? To what extent is the migration process itself the major distinguishing characteristic of migrant groups?

While the influence of the element of race is not particularly clear, it appears to be an important factor in studies of migration and mental illness. Malzberg (1956) found that the much higher admission rates for blacks in New York State were due to the presence of southern blacks who had migrated north. Other research comparing psychiatric hospitalization rates for black and white migrants and nonmigrants found that nonwhite migrants had the highest hospitalization rates, followed by nonwhite nonmigrants, white migrants, and white nonmigrants in that order (Lazarus *et al.*, 1963). In this case, race was the variable most strongly associated with psychiatric hospitalization. While hospitalization rates for blacks are consistently higher than those for whites regardless of migration status, it has also been established that migrants generally have higher hospitalization rates for mental illness within each racial group.

The relative influence of the social class, occupation, and education of migrants upon hospitalization rates is less evident than that of race. Lee (1963) found that standardization based upon occupation and education did not greatly alter conclusions based upon age-specific hospitalization rates alone. Locke and Duval (1964) found negative correlations between admission rates and occupation and education. A social-class variable was found by Srole *et al.* (1962) to account for most of the differences in psychiatric impairment ratings among various white ethnic groups in New York City. Murphy (1965) observed that social class, education, and occupation have less effect than might have been expected in an analysis of hospitalization rates for migrant and nonmigrant groups; however, these variables do account for a portion of the difference between them.

In general, while controlling for intervening variables, there remains an association between migration and psychiatric hospitalization rates which cannot be entirely accounted for by the distinct characteristics of the migrants. For this reason considerable research interest has arisen in the cultural and environmental context within which the migrant comes to interact. This approach focuses upon environmental characteristics at the points of origin and destination and the cultural implications and consequences of the process of migration for the individual. Thus, migrant groups whose role discontinuities are quite different should experience considerably different amount of stress based upon their relative

adjustment needs.

The characteristics of the places of residence at the points of origin and destination define the nature of the social change experienced by the migrant and, consequently, the magnitude of the required adaptive response. It has been generally assumed that the needs for adaption would be greater for those moving from rural to urban environments. By disaggregating migrants by rural or urban points of origin, previously hidden differences in hospitalization rates were revealed between the rural-to-urban migrant and the nonmigrant population. Research by Srole and Langner (1962) indicated that early migrants (prior to 1921) experienced a higher rate of impaired mental health than did post-1921 migrants. The impaired mental health of the early migrants was interpreted as reflecting the greater social distance between the areas of origin and destination which they encountered. The later migrants were seen as being better prepared to live in a highly technological society, as their points of origin were more likely to have been big and medium-sized cities. Therefore, we can see the importance of awareness of the characteristics of points of origin and destination in the attempt to evaluate potential adjustments and stress to which migrants are likely to be exposed. However, since rural-to-rural migrants also have been found to have higher hospitalization rates than rural nonmigrants, all differences in hospitalization are not accounted for by urban-to-rural migration.

In addition to contrasts at the points of origin and destination, another factor which has been suggested as influencing migration adjustment is the amount of pressure in the receiving society to assimilate or join the "melting pot." Countries which encourage rapid assimilation such as the United States and Australia have reported higher psychiatric hospitalization rates than those which accept or encourage ties to the original culture. The potential for stress is felt to be most intense for those migrants whose original culture differs radically from the new host culture and where the receiving society most actively emphasizes rapid assimilation.

Another potential source of situational stress is the degree to which the society at the point of destination is receptive to the arrival of migrants. If the migration is not perceived as desirable by the host population or the municipal authorities, if their entrance is viewed as an invasion, and if direct contact is seen as something to be avoided wherever possible, the migrant will experience considerable situational stress either directly or indirectly. Therefore, since the component groups of foreign-born would be at differential risk based upon the relative degrees of cultural discontinuities presented to them, the conclusions of those studies which merely compare rates of admission of all foreign-born and all native-born are misleading.

Over the years there has been a general refinement in the

procedures used to relate migration and mental illness. The utilization of crude admission rates for native and foreign-born populations has been supplemented by controls for age, sex, race, ethnicity, occupation, education, urban-rural residence, social class, and cultural background. A general conclusion is that some migrations are related to greater mental health risk, while others are related to favorable mental health. However, studies based upon rates of admission suffer from the limitation that not all migrants or nonmigrants experiencing mental health problems resort to hospitals. Thus, the statistics reflect treated prevalence, not true prevalence.

The most fruitful line of inquiry appears to center less around individual characteristics of migrants and more around the interaction between migrants and social environments at points of destination. Migration has been conceptualized as potentially an essentially stressful type of social change. Within the migration process a cluster of variables is suggested as influencing the mental health vulnerability-to-illness aspects of migration. These are origin, motive, target, means, perceived feasibility, and extraneous demands (Murphy, 1965). It is a consideration of these factors which best allows for the estimation of the potential stress present within a migration.

In the case of Puerto Rican migration, the impact of the origin factor is complex: movement away from a place of origin will be felt as a loss which may lead to distress; at the same time, movement away from an unsatisfactory social situation, such as lack of employment opportunities, may be quite positive. Rogler (1972) presents data relevant to this point. A majority of Puerto Rican migrants he studied evaluated their new life in a mainland city as "better" in working conditions, opportunities for children, health care, and schooling. However, they evaluated the quality of their new life as "worse" regarding social contacts -- entertainment, way of life, neighborhood relations, and friendships. In other words, the migrants enjoyed those tangible elements of life that improve man's material well-being and the most salient objective associated with the move to the mainland, but they longed for supportive social relationships, the bonds of primary-group contacts, and the sense of communal living associated with life in Puerto Rico. As a general process, Rogler points out that stress is balanced by the perception of tangible gains in the host society. However, if new unsatisfactory elements were to impact on the migrant, the stress associated with movement away from the place of origin might be felt more keenly.

This point ties in closely to the motive the migrant might have had for leaving the island. A forced move because of socioenvironmental pressures, in contrast to a voluntary move,

might lead to extensive stress. This may well have been the case for large numbers of Puerto Rican migrants who felt forced to leave the island because of an unsatisfactory employment situation. In the same way, such migrants might continue to feel coerced into remaining on the mainland by their perception of the lack of opportunities available on the island. The resulting sense of powerlessness then serves as an additional source of stress.

The Puerto Rican migrant may possess inadequate means to make a smooth transition to the mainland because of an incomplete or unrealistic perception of the situation, inadequate education, or because of a cultural orientation different from that of the host society. When discrepancies arise between the goal of migration and the social reality at the point of destination, situational stress may be generated. A migrant whose move is based upon a desire for economic opportunity may develop considerable stress when confronted with low-paying, dead-end job opportunities and racial discrimination. A level of education not initially inadequate may become so because of the changing job mix of the city and the nation, injecting situational stress into a previously successful adaption.

While the cultural discontinuities between Puerto Rico and the urban mainland are certainly less than they were during the major phases of Puerto Rican migration, and while the educational level of migrants compared to nonmigrants has clearly improved, the required transition may well be a source of continued difficulty for many migrants. Such factors may limit the ability of the migrant to cope with the required change.

The stressful impact of social change is present also when social environments are altered by processes such as industrialization, urbanization, urban renewal, and major economic changes. These processes are similar to geographic mobility in that they disrupt existing social support systems, leaving individuals without the traditionally mediating social institutions which have served to reduce the impact of stress.

Increased rates of disease have been associated with persons exposed to major social transformations. Cassel and Tyroler (1961) found that first-generation factory workers complained of more somatic symptoms in a greater number of organ systems that did a second-generation worker control group in the same factory. In a later study (1964), the same researchers found that a strong relationship existed between increased urbanization in countries of residence and mortality rates from heart disease. A relationship between what was termed "cultural mobility" and illness was suggested by Syme (1975) who found higher coronary heart disease rates among college-educated men of foreign-born parentage than among those who were not college-educated or among college graduates of native parentage. Syme concludes that change in

social environment, while not a causal factor in illness onset, is a reflection of a more general, stressful, social transition which might contribute to heightened risk.

We see then that social change from one generation to the next may be regarded as a factor contributing to increased susceptibility to illness. The Puerto Rican population, both migrants and nonmigrants, has obviously experienced considerable intergenerational change, and thus the migrants are themselves selected out of a group already at high risk to stress and disability.

Also associated with higher rates of psychological impairment is social change experienced in one's youth. In a survey of young black adults, Schwab, McGinnis, and Warheit (1973) concluded that the observed higher rates of physical and psychological problems found among young blacks were at least in part due to rapid sociocultural changes which occurred in southern black communities in recent decades.

While such studies are generally tentative in their conclusions, taken as a whole they do suggest that the relationship between social change and illness susceptibility is a promising avenue of research. The experience of Puerto Rican people, both migrants and nonmigrants, has been characterized by a succession of major social transformations. These transformations, whether considered alone or in concert, are clearly potential stress-inducers. Those who migrate are doubly at jeopardy to high risk, since they are compounding their potential source of stress through both the social transformations experienced on the island and those experienced during and after migration. By the same token, the children of these migrants, whether island-born or native, experience the effects of these social changes directly or indirectly.

Psychological stress and increased vulnerability to illness have been associated also with more immediate social transformations such as urban renewal programs. Such programs cause the breakdown of old communities and the disruption of established systems of social support, especially for the elderly and the very young. Levy and Rowitz (1973: 155), in a study of psychiatric hospitalization rates by neighborhood in Chicago, conclude that "it is precisely those areas of the city which are undergoing rapid and drastic social change which appear to create the highest rates of psychiatric casualties." It is clear that a large portion of the Puerto Rican population of New York City is exposed to several sources of immediate social upheaval through urban renewal or frequent relocation. The progressive deterioration of urban housing and its abandonment by low-income families have been well documented. It does not seem unreasonable to suggest that families who are forced to relocate repeatedly for reasons which are themselves situationally stressful will be exposed simultaneously to the stress of movement and to the stress associated with the

disintegration of the neighborhood social support systems. At the same time, the impact of these stressful experiences may be intensified due to the absence of these very same social support networks.

Exposure to conditions of economic hardship has also been associated with higher rates of mental illness. Brenner (1973) compared fluctuations in the national economy with New York State hospital admission rates, developing the hypothesis that as economic activity decreases, stress increases and therefore hospitalizations should increase. He found that when age, sex, and diagnosis are controlled, a significant relationship exists between economic fluctuations and admission rates. Brenner concluded that the single largest population at risk for psychiatric hospitalization is the one whose way of life is threatened or characterized by intermittent or chronic economic instability.

In contemporary society it is the lower socioeconomic groups who are consistently at high risk to experience the immediate effects of such instability. The socioeconomic position of the Puerto Rican population in New York has long been recognized as a subordinate one and is clearly characterized by long-term chronic economic instability. The ramifications of this position in regard to the experience of stress will be developed further in our discussion of the stressful life-events perspective.

Inadequate adaption to widespread social change eventually leads to varying degrees of social disintegration. Cassel (1973) in reviewing the literature found studies which demonstrate that social disorganization, in addition to its association with increased incidence of mental disorder, is related to higher rates of mortality and chronic disease. Measures of social breakdown, such as the percentage of one-child families and out-of-wedlock births, were found to be correlated with stroke mortality (Neser, Tyroler, Cassel, 1971). In a study of children's somatic illnesses it was found that families of sick children were more disorganized and had experienced more life changes than families of healthy children (Mutter and Schleifer, 1966). Kosa and Robertson (1969) noted that chronic family disorganization was associated with increased susceptibility to illness. Rogler and Hollingshead (1975) demonstrated that when mothers are afflicted with schizophrenia the family experiences chaos and confusion, the members are in conflict with each other, and there is a pronounced tendency for the children to develop deeply rooted emotional problems.

Taken individually, most studies of social change and health status suffer from a variety of methodological weaknesses: The populations are seldom systematically selected and are often self-selected. The data available are often limited because of small sample size and lack of suitable instruments. Analysis also often fails to account for multiple factors and extraneous influences on

outcome measures. In addition, prospective studies of health consequences of social change are seldom possible. Retrospective studies are subject to the usual difficulties in distinguishing between precipitating and outcome variables; yet long-term cumulative studies are not available. Nevertheless, these studies do serve to support the general belief that major changes in the social environment increase susceptibility to a broad spectrum of health problems. These changes may take a number of forms but all share the property of disrupting the interpersonal relationships which make up the individual's social support and feedback systems. In the absence of these major mediating factors, the individual's vulnerability to illness seems to be increased.

In this chapter we have developed the perspective that major changes in the social environment are related to increased stress and increased susceptibility to disease. At the same time, we have indicated a number of such social changes experienced by Puerto Rican migrants. The factor considered to be of critical importance is the amount of social change experienced by the migrant in the environmental milieu.

In Chapter 2 we develop in more detail the correspondence between the social characteristics of Puerto Rican New Yorkers and the potentially stressful nature of life events experienced by this migrant group. We do this by briefly presenting what has been termed the "stressful life-events" perspective, its relationship to illness susceptibility and its specific applicability to the Puerto Rican situation in New York City.

2

Socioeconomic Position of Puerto Ricans and Stressful Life Events

Our examination of the relationship between social change, stress, and disease indicates that migrants experience major social changes in their environment which are related to increased stress and susceptibility to illness. We will now focus our attention on the specific case of Puerto Ricans in the United States by presenting a demographic profile of this migrant group and by demonstrating that the socioeconomic characteristics of this population render it susceptible to stressful life events. These patterns are examined in an effort to specify the extent to which a Puerto Rican child may be exposed to the impact of a wide range of stressors. We demonstrate a number of dimensions along which the Puerto Rican family, the primary support network of the child, is exposed to stressors which may also affect the child and is seriously hindered in its function as a support system. We also discuss the stressors affecting the school, another important support system of the Puerto Rican child.

Persons of Hispanic origin and descent constitute an increasingly large minority population in the United States. From 1970 to 1978 the Hispanic population grew from 9,072,602 to 12,046,000 (U.S. Bureau of the Census, 1978), an increase of almost 33 percent as compared to an overall population increase for the United States of less than 8 percent. These figures do not include the population of Puerto Rico, and they constitute a significant undercount of the mainland Hispanic population because of the presence of large numbers of Hispanics who have either entered the United States without documents or have violated the provisions of their entry visa. The Puerto Rican population presently comprises about 15 percent of the reported mainland Hispanic population.

Census data on the Puerto Rican population have been reported since 1910. At that time there were 1,513 persons of Puerto Rican

origin reported living within the continental United States. By 1920 that figure reached 11,811, dispersed throughout 44 states. By 1940 the census reported that population as approximately 70,000. Ten years later the Puerto Rican community, both island-born and those of Puerto Rican parentage, had more than quadrupled to over 300,000 persons. In the following decade the number nearly tripled to 892,000 persons and by 1970 persons of Puerto Rican birth or parentage living on the U.S. mainland numbered about 1,429,000. According to the most recent reports, the Puerto Rican community on the U.S. mainland numbers 1,823,000 persons (U.S. Bureau of the Census, 1978). This represents an increase of more than 27 percent over the population reported in 1970.

As a result of migration about one-third of the total Puerto Rican population lives on the mainland, and about one-fifth of the total resides in New York City. Almost all of the Puerto Rican migrants have chosen urban areas of settlement, and New York has been the dominant traditional area of first settlement. New York's share of the migration has fluctuated through the decades largely in response to the capacity of the labor market to absorb new workers. Although the absolute size of New York City's Puerto Rican mainland population has been increasing, the city's relative share of this population has decreased from 88 percent in 1950 to 59 percent in 1970. This is still, however, the largest Puerto Rican community on the mainland. While New York City was absorbing this massive influx of migrants between 1950 and 1970, the population of the city remained stable at about 7.9 million, but the city's racial/ethnic composition underwent considerable alteration. In those decades the Puerto Rican community grew from 3 percent to more than 10 percent of the city's population. During the same period, the number of non-Puerto Rican Spanish-speaking residents also increased with immigrants from Cuba and Latin America.

The 1976 Survey of Income and Education indicated that 1,228,000 Hispanics were living in New York City in that year, 61 percent of whom were Puerto Ricans. This was about 55 percent of the total Puerto Rican mainland population (Lash *et al.*, 1979). While this estimate may be high, given the suggested increase in Puerto Rican migration from New York City, Puerto Ricans still constitute the largest Hispanic population in the city, with the greatest concentrations living in the Bronx and Brooklyn.

The population of Puerto Rico is currently estimated at about 3.4 million (Population Reference Bureau, 1978), which means that almost one-third of all Puerto Ricans now live on the mainland. Although there had been migrants reported on the mainland as early as the late 19th century, large-scale migration from Puerto Rico did not begin until World War II. This migration has been closely tied to the perception of greater economic opportunities on

the mainland. Due in part to the reorganization of agricultural production in the 20th century, Puerto Rico has been characterized by high-unemployment and low-wage rates. These economic conditions, in combination with rapid population increases and widespread poverty, served as the "push" factors in the migration, but migration was encouraged also by the lack of restriction on movement between Puerto Rico and the mainland, availability of cheap air transportation, and the considerable Puerto Rican community already present in New York City in the early 1940s.

From 1951 to 1960, a yearly average of 41,212 persons migrated from Puerto Rico to the mainland. While the numbers decreased considerably in the following decade to an average of 20,444, the flow was still substantial. By the midseventies the net flow of migrants appeared to have reversed itself and favored movement back to Puerto Rico. Thus, in recent years more persons returned to the island than came to the mainland. There is, however, no accurate way of identifying how many persons are in each group or what their ages are since, as citizens moving internally, Puerto Ricans are not subject to immigration restrictions. The best indicator of movement is the transfer of public school children from mainland schools to island schools and vice versa. In the 1974-75 school year, for example, 8,547 children transferred from public schools in Puerto Rico to public schools in New York City; 9,254 children transferred from New York City schools to schools in Puerto Rico (N.Y.C. Board of Education, 1978).

The Puerto Rican population tends to be quite young compared to the general population. Nationally, in 1976 the median age of the Puerto Rican population was 20.4 years, in contrast to 29.2 years for the total U.S. population (U.S. Bureau of the Census, 1978). The youthfulness of this group becomes even more pronounced if those of Puerto Rican parentage are considered separately. For second-generation Puerto Ricans who nationally comprised 42 percent of the mainland Puerto Rican population in 1970, the median age was 9.3 years; in New York State the median age was 9.6 years; in New York City 73 percent of second-generation Puerto Ricans and 38 percent of all Puerto Ricans were under 15 years of age. In 1975, 18 percent of all children under 18 years of age living in New York City were of Puerto Rican birth or parentage. This age structure results from the recency of the migration and points to the critical need for adequate evaluation and provision of physical and mental health services to Puerto Rican children.

Furthermore, the Puerto Rican population has a lower educational level than the general population. According to the 1970 census, the median education of the typical non-Hispanic white is more than 12 years; for the black, 9.8 years; and for the mainland Puerto Rican, 8.7 years. In 1978 only 36 percent of the

national Puerto Rican population were high school graduates, compared to 67 percent of the non-Hispanic population. In 1970 in New York City, the median education completed by island-born Puerto Ricans 25 years old and over was less than 9 years, compared to more than 12 years for the total population; 56 percent of all adult Puerto Ricans had only a grade school education or less, almost twice the percentage of the general population. However, for second-generation Puerto Ricans, the median years of schooling increased to 11.5 years, close to that of the total population. The dropout rate has also been a point of major concern for the Puerto Rican community. According to the 1970 census, 80 percent of all Puerto Rican students in New York State dropped out before completing high school, compared to 47 percent of the non-Puerto Rican population (Perez, 1979).

Throughout the history of migration to the mainland, the labor force activity of mainland Puerto Ricans has been located in blue-collar and low-skill jobs since a disproportionate number of Puerto Ricans lack the educational background required for white-collar occupations. The character of low-skill jobs relates to the levels of labor force participation, unemployment, and wages of any group filling such positions. Recent reports from the Department of Labor describe Hispanics in general as having lower participation, with a high concentration in the low-paying operative occupations. Among employed Puerto Ricans in 1977, 62 percent worked in the four lowest paid occupational groups, while being underrepresented in white-collar categories (Newman, 1978). This situation is particularly mordant for many adolescents who may have dropped out of school but, nevertheless, would be willing to enter the labor force.

An obvious relationship exists among the socioeconomic indicators of education, unemployment, and income. As a group, Puerto Ricans are the poorest Hispanics in the United States. Their median family income in 1977 was $7,972, almost $4,000 less than that of Mexicans, the next poorest Hispanic group, and about half that of all U.S. families (U.S. Bureau of the Census, 1978). The low income of the Puerto Rican population puts a large number of families at risk to experience considerable economic hardship.

While indicating the relative poverty of the Puerto Rican population, these figures do not communicate the extent to which their economic position is deteriorating in comparison to other Hispanic groups. The 1970 census reported that 23 percent of all Puerto Rican families were living below the poverty level; for 1975 this percentage was 33.5; and for 1977, 39 percent of all Puerto Rican families were living below the poverty level compared to 19 percent of Mexican families and only 7 percent of all non-Hispanic white families (U.S. Bureau of the Census, 1978). In recent years while other ethnic groups have improved their absolute economic

position, the situation of the Puerto Ricans has become more tenuous.

Based on various socioeconomic indicators such as income, education, unemployment, and incidence of poverty, we see that Puerto Ricans in general are an economically deprived minority group. Census reports indicate that the average Puerto Rican on the mainland is the least educated and least skilled of the population, is hindered by language difficulties, has the highest unemployment rate, lowest paying jobs, lowest income, and highest percentage of families living below the poverty level.

As can be surmised from the demographic profile of Puerto Ricans, almost every index used to determine their life circumstance in the United States shows that they are at the bottom of the urban pyramid (Wagenheim, 1975). Studies in numerous settings have shown that low socioeconomic status is consistently associated with high rates of certain psychiatric disorders. The concept of stressful life events provides valuable clues for delineating the possible connections between the demographic situation of Puerto Ricans and psychological distress.

During the past several decades, attention has focused upon the role stressful life events play in the etiology of various diseases, based upon Cannon's observation of bodily changes related to emotions and Meyer's development of the life chart as a diagnostic tool (Cannon, 1929; Meyer, 1951). The purpose of life-events research is to examine the possible association over time between increases in the number of events which require adaptive responses and the onset of illness. Thus, to examine social factors involved in the development of symptoms of mental illness, the concept of stressful life events is rendered operational by determining the frequency and type of changes experienced by a person in a specified period of time (such as losing or changing a job, moving to a different neighborhood, marriage or divorce, death of a loved one, and so on). Although technical and substantive issues in the use of the concept still remain unresolved, research premised upon the concept has by now developed a modest legacy (Meyer, 1951; Holmes and Masuda, 1974; Hinkle, 1974; Myers *et al.*, 1974, 1975; Hough *et al.*, 1976).

In fact, studies have demonstrated significant associations between the number and intensity of life events and the probability of illness. In both retrospective and prospective studies, positive relationships have been found between changes in life events and such conditions as sudden cardiac death, accidents, injuries, tuberculosis, and a wide range of medical complaints. In studies by researchers examining the hypothesis that life-event changes are stress-producing in their requirement for new adaptational responses and that stress gives rise to symptoms of mental illness (Dekker and Webb, 1974; Jaco, 1970; Markush and Favero, 1974;

Myers *et al.*, 1972; Paykel *et al.*, 1975), it appears that an increased frequency of stressful life events can precede the emergence of certain physical and psychological disorders.

While the overwhelming proportion of research has been concerned with adults, several studies examined the relationship between life events, adjustment, and childhood disorders. One of these studies investigated the amount of social readjustment required by children in response to the overall impact of life events (Coddington, 1972), resulting in the establishment of curves of required social adjustment for children of varying ages.

Other studies have attempted to link nonspecific events in children's lives to the development of physical disorders of different types. The significance of such life events was investigated by Heisel *et al.* (1973). This study obtained the frequency with which stressful life experiences had occurred in five groups of sick children: general pediatric cases, general surgical cases, hemophiliacs, psychiatric patients, and sufferers of rheumatoid arthritis. All the groups, with the exception of the hemophiliacs, had significantly higher frequency of exposure to stressful life events in the year prior to investigation than did a corresponding group of 3,500 "healthy children."

In another study, Mutter and Schleifer (1966) compared the recent life experiences of 92 sick children and 95 well children to determine the role of psychological and social factors in the onset of somatic disease. They hypothesized that, given the necessary biological conditions, the onset of somatic illness is related to the child's ability to cope with changes in his psychological and social environment. They found that while both groups of children experienced change, the sick group as a whole experienced a greater number of changes than the well group. At the same time, a larger proportion of sick children had experienced actual or threatened social losses, as well as greater change in affectational and role-performance behaviors of immediate family members.

Thus, the findings indicate greater instability in the psychosocial setting of the sick child. The sick group experienced considerably more events in which the required change was somehow threatening, while the impact of these changes, even when occurring for both sick and well children, was found to be greater upon the sick children. This research, along with numerous studies focusing upon adult populations under different conditions, lends support to the idea that life-event changes play a role in the advent of certain illnesses.

While research on the more structural influences of the child's psychological development is relatively scarce, some research on the relationship of environmental factors to psychiatric disorders was carried out by Rutter in Great Britain. In this research both the potential for geographical area differences in childhood

psychiatric disorder and the stresses of inner-city life are seen as influencing the status of psychological developments (Rutter, 1976). In his discussion of area differences in psychiatric disorders, Rutter notes that psychiatric conditions may vary in rate according to the area in which one lives. He notes studies that found suicide most prevalent in areas characterized by social isolation, population mobility, and social disorganization. In addition, the rates of psychiatric referral were higher in children living in highly populated areas of lower social status. In some of his own studies (1975a, 1976), Rutter found that children in inner-city areas of London had twice the number of diagnosed emotional and conduct disorders as children living on the rural Isle of Wight.

Rutter also notes several major factors which are important in explaining the higher rates of psychiatric disturbances in children which he sees as related to the stresses of inner-city living. Many of these are well known but will be mentioned here briefly. Overcrowding in the home is usually more important than the number of persons living in a given geographical area. In a recent study, LaVietes (1979) suggested that crowded housing exposes children to limited areas of play, bed-sharing, lack of privacy, and an excessive degree of body contact and sexual stimulation. In addition, the impact of densely populated high-rise buildings on the adult population has been suggested as including feelings of less control, safety, and privacy, and problematic social relationships among tenants (Saegert and McCarthy, 1979). Rutter (1976) noted the potentially adverse effects of high-rise housing, while pointing out that the anonymity of city living, reduced sense of community, and frequent changes in housing are additional factors which increase the stress to which the child is exposed and thus may increase psychiatric disturbance. The Puerto Rican child living in New York City would certainly seem to be disproportionately exposed to all of these factors.

The influence of environmental factors on child behavior and impairment levels was also investigated by Langner *et al.* (1974) in a study measuring the sources and levels of stress to which children of different ethnicity (white, black, and Spanish-speaking) were exposed and the relationship between impairment levels and exposure to stress. Measurement of both impairment and stress was based upon interview data collected from a random sample of over 1000 mothers. White children were least exposed to social stress, followed by Spanish-speaking, with black children demonstrating the highest exposure. The major sources of stress to which Spanish-speaking children were exposed were in the marital/parental sphere (especially the mother's physical and emotional illness), but they were also exposed to high levels of stress associated with frequent changes in residence. Black children were more exposed to stress emanating from the parent-child

relationship. Based upon exposure to stress it was estimated that white children would show the least impairment followed by Spanish-speaking and black children, which was indeed the relationship shown. It is unclear at this time whether the similar impairment levels of black and Spanish-speaking children reflect actual differences in the relationship between exposure to stress and impairment or are attributable to response bias. Instances of such response bias could take the form of black mothers overreporting stress or underreporting symptoms or Spanish-speaking mothers underreporting stress and overreporting symptoms.

Life-event changes which are undesirable, and thus more likely to be stressful, are most frequently experienced by low socioeconomic groups, thus affecting children in the developmental stages. Marital disruption, migration, forced relocation, physical illness, unemployment, and thwarted mobility, all experienced in succession throughout the life cycle, and all stress-inducing, provide a basis for the observation that lower socioeconomic groups have higher rates of physical and mental disabilities.

To the usual sources of stress imbedded in the low socioeconomic position of Puerto Rican New Yorkers can be added their status as migrants, their cultural differences from the host society, and the rapid changes in their traditional stabilizing institutions. Puerto Ricans, we believe, experience qualitatively new types of life events: the need to learn a new language; the impact of bilingualism upon information processing, memory, cognitive abilities, personality characteristics, and world view; prejudice and discrimination; adaption to the impersonal terms of a bureaucratized society; demands of an agitated, daily cycle of life rooted in the character of the urban metropolis; and the anxious tribulations of daily interaction with persons outside the ethnic group.

The Puerto Rican case represents, therefore, a qualitatively new constellation of life-event changes in which capacity to produce emotional stress is significantly greater than would be the case for a person whose trajectory of life-event changes is circumscribed by constancy of membership in one sociocultural system. This formulation is consistent with Dohrenwend's research findings (1966) that, in comparison to other subgroups, Puerto Ricans exhibit a higher prevalence of psychiatric symptoms with a greater degree of severity, independent of educational level. As Dohrenwend explicitly and systematically recognizes, however, such findings lend themselves to alternative interpretations. Research is needed but, in its absence, we base our speculations upon findings derived from studies of other populations and upon the known structural characteristics of the Puerto Rican population.

Quite clearly, the Puerto Rican child is at risk and experiences

stress either directly or indirectly from the sources cited above. The impact of socioenvironmental stressors as well as the stress present in change-related life events may have a profound effect upon the child. We do not suggest that all Puerto Rican children are equally at risk to these stressors, nor do we suggest that the exposure to stressors results in the development of pathological conditions in all children. We do contend, however, that, in general, the Puerto Rican child is exposed to a wide-ranging configuration of stressors, whose effects are potentially damaging to the child.

It has been noted that certain individuals manifest stress responses such as chronic illness and mental disorders after exposure to stressful conditions, while others do not, but exposure to stressors alone is almost never a sufficient explanation for illness. In fact, most people do not become disabled when exposed to stressful conditions. Rabkin and Struening suggest that other influential factors may be grouped into three broad categories: characteristics of the situation, individual biological and psychological attributes, and characteristics of the social support system available to the individual (1976: 599). These factors are felt to be both interrelated and cumulative. A situation may be so stressful as to result in disorder, despite the characteristics of the individual or the existing support systems. On the other hand, a situation of moderate stress may or may not result in illness, depending upon individual biological and psychological susceptibility, as well as the availability of support systems. At the same time the lack of support systems and pronounced vulnerability do not by themselves precipitate disability in the absence of stressful conditions.

Formal characteristics of stressors associated with the probability of disease occurrence include intensity, magnitude, duration, unpredictability, and novelty. The magnitude of the stressful event has been found to be positively related to the extent of disability: the more extreme the stressful situation, the more variance is accounted for by the stressor rather than other characteristics. The effects of the duration of the stressful event have been found to vary widely depending upon all characteristics of the event, while the novelty of an event increases its impact.

The life-events literature has demonstrated that numerous stressors operating simultaneously or in sequence have greater impact than stressors that occur separately, since the behavioral and adaptive capabilities of an organism tend to drop dramatically when confronted with this type of overloading. We have previously suggested that the Puerto Rican family is subject to a wide variety of simultaneous or sequential stressors and that these are, in turn, associated with a high incidence of disorder. This concept of stressor overload and its aftermath would seem to be quite applicable to the experience of many Puerto Rican families. In

general, the properties of the stressors appear to constitute a significant source of variation affecting its impact on the individual. Their effects seem to be related to that of other potential etiolcgical elements such as individual susceptibility and the availability of social supports.

Individual characteristics also serve as mediating factors in the development of the stress response. Factors that influence individual reactions to stressful events include perception of these events, range and relevance of coping skills, and generalized personality style. The individual's perception of stress is an important factor in determining its impact. Personal characteristics help determine the perception and appraisal of potentially threatening events.

The ability to cope adequately with stressful events is an essential component in the avoidance of stress reactions. Successful coping behavior depends upon an accurate assessment of the elements of the situation including judgments about the degree of the threat, the importance of the element endangered, alternative courses of behavior, and the social or situational constraints placed upon methods of response.

The perception of stress is mediated by both internal and external factors. Personal factors such as biological and psychological sensitivity, thresholds, intelligence, verbal skills, morale, psychological defenses, past experience, a sense of mastery over one's fate, and demographic characteristics have all been found to mediate the accurate perception of stressors (Dohrenwend and Dohrenwend, 1974; Rahe, 1974; Uhlenuth *et al.*, 1974). In the following chapters, physical and emotional stressors on Puerto Rican children will be described indicating vulnerability in their internal mediating capacity to deal with stress.

In assessing the internal factors associated with the perception and mediation of stress in children, a number of elements appear relevant. The presence or absence of stress responses in any individual child is seen to be dependent upon the unique experiences of the child and the potential mediating factors available to support him in times of stress. Of considerable importance is the child's emotional developmental stage which dictates the general sophistication of his coping abilities. At the same time, his individual temperament is also of importance. Children who, early in life, manifest irregular patterns of sleeping and eating and exhibit a general lack of malleability to change have been found notably more susceptible to stress (Anthony, 1974). The effects of these factors are fairly clear: those individuals with more skills, assets, resources, and experience are better able to cope adaptively with impacting stressors.

Paralleling the internal mediating factors in the stress sequence is a set of social or external factors -- the buffers and support

systems accessible to the individual in his social environment. Included in this category are factors such as social position, access to helping resources, family support, and community attitudes.

The social positions that individuals and groups occupy in a community can influence their experience of stress and thus their vulnerability to illness. Independent studies have observed that stress is reduced for individuals who are effectively imbedded in social networks or support systems (Cassel, 1973; Caplan, 1974). These systems function to augment the personal resources and strengths of the individual or group and aid in their mastery of the environment. Consequently, the disruption or absence of membership in such networks has been identified as a predisposing factor to the experience of stress. Individuals may be at such risk due to social isolation, social marginality, and status inconsistency. Research has suggested that those who are socially isolated, who live alone without extensive contact with other people or organizations, have a high vulnerability to a variety of chronic diseases.

While social isolation represents perhaps the most extreme example of impairment of one's position in the community, marginal social status, due to membership in a low-status group or one which is a numerical minority in an area, has also been associated with increased health risks. A third form of community marginality is based upon status inconsistency. This refers to a situation in which a person occupies two or more distinct social statuses which involve incompatible social expectations. Chronic emotional stress results from this lack of fit between the various statuses the individual maintains. This socially induced stress is presumed to play a predisposing or precipitating role in the onset of physical and emotional disorders. These findings regarding the lack of support alternatives and illness are of relevance to our concern for children insofar as they point out the importance of such mediating factors in the successful management of stress. Quite clearly the alternatives available to children differ from those available to adults. The primary support networks available to children are family and school. The status of those networks for Puerto Rican children and their ability to mediate stress are discussed below.

The primary support network available to children is the family. It serves as the basic psychological unit in which the child is born and raised. The basic functions of the family, those which maintain and establish the family as a unit, have been grouped into primary and secondary functions. The former are concerned with provision of shelter, food, and clothing; management of finances and fostering of the family's physical and mental health. The latter are those concerned with socializing family members into the larger society and the transmission of values within the

family (Zilbach, 1979).

Many studies have documented the family's essential role in the institutional character of Puerto Rican society. The family is central to the island's stratificational system, social mobility patterns, and transition from an agrarian to an industrial society (Tumin, 1961); it mediates between the economic base of communities and socialization patterns (Wolf, 1952); it shapes the social experiences which accrue from socialization (Landy, 1959); it is the main context of economic consumption (Roberts and Stefani, 1949); it is an important repository of modernizing impulses to social change (Hill *et al.*, 1959); it binds together reciprocal patterns of help in facilitating rural-to-urban migration and adaptation (Rogler and Hollingshead, 1975); it mitigates the implementation of middle-class rules in urban public-housing developments (Hollingshead and Rogler, 1962); it extends itself into the ritual coparent system of *compadrazgo* to enlarge the scope of its social security function (Mintz, 1955); it is the object of devotion in an overarching system of cultural values (Brameld, 1959); it is the primary setting for the care of the mentally ill (Rogler and Hollingshead, 1975); and it even shapes the character of entrepreneurial activities through its system of paternalistic relationships (Cochran, 1959). Despite rapid social change, Puerto Rican society at the root cultural level still centers upon the family and its functions. In brief, Puerto Ricans come from a society in which the family plays a fundamental role in the governance of its members.

Since the family is so central to Puerto Rican social life, any factors which impinge upon or alter its functioning may have wide-ranging consequences, both for the family as a whole and for its individual members. While the family is the major support network for all children, this is especially true in the Puerto Rican case where the family is a fundamental integrating and identifying institution. Thus, the potential effects of family dysfunction may well be more severe for the Puerto Rican child than for other children.

Among the primary functions of the family is the provision of a positive residential environment. We have already indicated a number of ways the physical environment of the Puerto Rican family may serve as a general source of stress to its members. Puerto Ricans are overwhelmingly urban dwellers and of low socioeconomic status. It is well established that low-income areas are often characterized by high crime rates, poor health conditions, deteriorating infrastructure, overcrowding, and inadequate community organization. In 1970, 85 percent of New York City Puerto Ricans were heavily concentrated in "low-income areas" (United States Department of Labor, 1975).

The problems associated with the physical environment

combined with the subordinate position of Puerto Ricans along economic, social, and educational dimensions clearly indicate that the Puerto Rican family faces considerable difficulties in fulfilling what were previously termed the primary functions of the family unit. In such a situation, even when the material welfare of the family is adequately provided for, the struggle involved may create additional sources of stress for the child.

In addition to exposure to external sources of change and life events which impact upon the completion of primary family functions, the Puerto Rican family is characterized also by significant internal changes. These changes may be reflected in the ability of the family to carry out its secondary functions, i.e., the socialization of children to the larger society and the transmission of the appropriate values and role behaviors.

We discussed previously the relationship between migration and the resultant discontinuities between the areas of origin and destination which apparently put the migrant family at higher risk to mental health problems. One area in which these discontinuities are felt for prolonged periods of time is that dealing with values and behavior patterns appropriate to the area of origin. At the very heart of these patterns are family values and role behavior. If the traditional values and behavior patterns are called into question by alternative patterns or are made inappropriate by the social reality at the area of destination, the effective functioning of the family is endangered along with its ability to mediate the stress of its members.

Studies in Puerto Rico have shown the existence of considerable variation in family values and role behaviors between families of different social backgrounds (Steward *et al.*, 1956; Bram, 1963; Leavitt, 1974). The values and behaviors of New York Puerto Rican families are potentially distinguished not only on that basis, but also by age at, or recency of, arrival on the mainland. Despite these differences, there are values and behavior patterns which may be said to characterize the Puerto Rican family generally. It has traditionally had a strong patriarchal structure although even this pattern has been found to vary in intensity by social class (Mussen and Maldonado-Beytagh, 1969). On the mainland, increased alternative means of support for women and high rates of male unemployment may function to undermine this traditional role structure. In many families the "myth" of the strong male authority figure contrasts sharply with the reality of a subculture where the female may be the source of income through Aid to Dependent Children grants or the only consistent and present force in single-parent families.

The impact of this situation may be considerable on children of both sexes; that is, to be male is to be "the authority" with no power or economic potential and to be female is to be

"submissive" but autonomous financially and overwhelmed by responsibilities. Thus, a cultural pattern once adaptive and socially syntonic has become a myth which no longer has a base in reality and may create, at times, an area of stress to family members who enter into conflict over their sexually defined roles. This family conflict may serve as a direct source of stress to the child, as well as limit the family's ability to mediate the effects of other stressors impacting on the child.

This situation is compounded by the potential undermining of parental authority in general (Mizio, 1974; Torres-Matrullo, 1976; Ross, 1974). The child begins to challenge the already weakened parental authority as he becomes more exposed to American values that stress independence and assertiveness, in contrast to his domestic culture which demands dependency (Murillo-Rohde, 1976; Bram, 1963). Once again conflicts over authority are directly stressful to the child and the parents, while also potentially affecting the family's ability to function as a support system for the child.

The incapacitation of family members due to illness also may serve to create stress within the family and to minimize its ability to mediate external stress for the child. Langner *et al.* (1974) noted that the mother's incapacitation was a strong source of stress for all children, but especially for Spanish-speaking children. While no further analysis of this finding was carried out for these New York City children, Rogler and Hollingshead (1975) conducted a study in Puerto Rico which investigated the manner in which low-income Puerto Rican families coped with the specific problem of schizophrenia. The study demonstrated that the impact of schizophrenia upon the family is mediated by the sex role of the afflicted person. When both spouses, or the wife but not the husband, are afflicted with schizophrenia, the nuclear family experiences profound disorganization. Sick wives, unable to accept the culturally prescribed norm to conform, come into conflict with their husbands whom they perceive to be neglectful and cruel. In contrast, when the husband, but not the wife, is afflicted with schizophrenia, the wife mobilizes family resources to cope with problems created by the illness: wives work to compensate for their husbands' incapacity to provide a living; they cast themselves into a nurturing supportive role toward their husbands. These coping efforts maintain a balance in the complementarity of role relations in the family. Sex-role differences in the family, therefore, mediate the impact of schizophrenia.

Clearly throughout this process the children of such families are exposed to considerable stress both directly from the afflicted parent(s) and indirectly through the change in family behavioral patterns. At the same time, the ability of the family to mediate external stressors is decreased as more resources are committed to

the maintenance of the family unit.

While the locale of this study was Puerto Rico, and its concern was with one specific condition, schizophrenia, it clearly demonstrates the potentially devastating impact of parental illness upon a child's world. In line with our belief that mainland Puerto Ricans are disproportionately exposed to stressors which may result in impairment, we feel the children of such families are also exposed disproportionately to the immediate stress of parental impairment and its resulting disorganization.

The extended family has been described in the literature as characteristic of Puerto Rican and other Hispanic groups. The definition of this concept has alternated between that of a family with many relatives living together in one household and that of a nuclear family living alone but in a large kinship network. The Rogler and Hollingshead study (1975) described how the family enmeshes its members in a system of help-giving exchanges. The system incorporates the nuclear family into the extended family, because mutual help criss-crosses blood and affinal relationships. Mutual help, in fact, is seen as having the status of a sacred or obligatory norm. This norm's pervasiveness in Puerto Rico was evident in the finding that, at the time the study's data were being collected, 88 percent of the nuclear families were either giving or receiving material goods in contacts with their relatives. Very likely, the cultural roots from the island make this an important dimension of Puerto Rican life on the mainland.

However, the processes of industrialization and urbanization are felt to have reduced the feasibility of many family members living in one household. Research in Puerto Rico indicates that these social changes are attenuating the traditional bonds of help between neighbors and friends (Steward *et al.*, 1956; Rogler, 1967) and that in San Juan the neighboring bond is weakest among families at the bottom of the stratification heap (Caplow *et al.*, 1964). The finding of a weakened neighboring bond among the urban poor in San Juan suggests the possibility that this bond may also be under pressure among poor migrants living on the mainland. Research in the South Bronx by Garrison (1972) did find that only 20 percent of the Puerto Rican households surveyed contained extended families. However, it was also found that 61 percent of these households interacted to some degree in an extended kinship network.

Whatever the actual extent or effectiveness of extended kinship and neighboring networks, they are clearly seen by the migrant as desirable support networks. The individual or family that does not exist within such networks is unable to utilize important coping and adjustment alternatives available to others. If these networks are perceived as the most appropriate sources of support, it is not unreasonable to suggest that those who do not have such

alternatives may be unable to cope with stressful situations as effectively as those who do. This is important since an inability to cope with stress serves to increase stress and, thus, the need for effective coping mechanisms.

Cultural discontinuity is reflected also in childrearing practices. It has been suggested that the differences in Puerto Rican childrearing practices and those of the mainland society produce enormous conflicts for the Puerto Rican family. The protective attitudes of Hispanic parents, the conditioning of Puerto Rican children to stay within the realm of the family unit, and the concept of personalism are some of the values that are seen as coming into direct contrast with urban mainland values, and thus serving as a source of stress for the child and the parents (Ross, 1974).

The impact of such role impermanence and unpredictability on low-income families was described by Minuchin (1967). He notes that parents at times hold absolute power but, at other times, feel completely helpless and delegate instrumental roles to a "parental" child. The "parental" child thus is caught in a position of great stress since he is forced to execute many family functions and also may receive displaced anger from other family members.

Our present orientation in no way denies that Puerto Rican families may well be in a position to utilize the supportive, help-giving familial and cultural systems they bring with them, those which they create in the host society, and those already in existence. Adult Puerto Ricans who are integrated into help-giving supportive systems may be able to withstand migration-induced life-event stressors, while those for whom integration is attenuated are rendered psychologically vulnerable. The Puerto Rican child is clearly vulnerable to stress in both instances.

If the family does not have access to the traditional support networks, the utilization of agency facilities may itself serve as an additional source of stress and family disruption. In comparison with expectations based upon experience with the "extended family" and "neighboring" networks, the formal procedures and bureaucratic atmosphere in agencies may be perceived as hostile and demeaning. Instead of interacting within the framework of a fundamental and reciprocal social norm, the family is immersed in what, at times, is closer to an adversary relationship, in which it is without resources and essentially powerless.

In general, any situation which requires recourse to these help-giving support systems indicates that children will be subject to stress. This is the case since the utilization of support systems usually occurs after the stress responses have manifested themselves, after the child has been exposed to such responses, and after the family functioning has been impaired. In addition, utilization of these helping networks implies changes in the family

life patterns which may also serve as a source of stress.

The other very important support network available to children is the school. Children are entering day-care programs, pre-school programs, and nurseries younger than ever before and are thus being exposed quite early to institutions outside their immediate families. In the case of Puerto Rican families in New York there are no data yet available that indicate Puerto Rican children are entering educational institutions earlier. The fact, nevertheless, stands that for all children by the age of five or six the school becomes quite important.

Presently, Puerto Rican children constitute a substantial portion (23 percent) of all New York City public school students. (Annual Pupil Ethnic Census, 1978.) As we would expect, based upon the age structure of migrant populations, those Puerto Rican children enrolled in public schools are, as a group, younger than both black and non-Hispanic white students: 52 percent of all Puerto Rican public school students are enrolled at the elementary level in comparison with 46 percent of all black and 45 percent of all non-Hispanic white students.

School in our society ideally should help children in their process of socialization and cognitive development. It is usually the first experience of children with the outside world, their first exposure to children from a wide variety of households, and a first exposure to adults with differing views of the world from those of their parents and families. It, thus, enlarges the child's experiential world and gives him a feeling of belonging to a larger group than his family (Jensen, 1974).

Healthy peer interactions plus new academic skills help the child as he grows to develop coping styles to deal with the increasing demands of society. Many times school and peers supply a support network that some families are unable to offer or complement the functioning family to provide the child with an additional stable environment. Schools may thus serve to mitigate and decrease stress as well as to help children develop mechanisms to cope successfully with stress. At the same time, the school may become an arena in which the child manifests stress responses. It has been suggested that 10 percent of school children are in need of some professional attention (Glidewell, 1977). Glidewell notes the most prevalent problems reported by teachers included temper tantrums, daydreaming, and frequent crying, about one-fourth of which were considered serious enough to require professional attention. Other problems were defects in interpersonal skills, of which one-third were considered serious enough for professional attention, and antisocial behavior which was serious enough to require attention in 80 percent of the cases.

In the classroom certain behavioral and, at times, symptomatic pictures tend to evolve, for example, withdrawal. This behavior

has been associated with intrapersonal stress, low self-esteem, anxiety, psychiatric illness, and poor interpersonal skills. Children displaying this kind of behavior are usually aware of the rejection of their peers and are differentiated from small contracultures of peers and subgroups within a classroom who award status for behavior with characteristics opposite to the norm and whose antisocial nature may not necessarily indicate psychiatric illness. Also, among those children who indicate consistently low patterns of academic achievement are a high proportion of disturbed children. Factors such as the attitudes of staff and students, achievement measures, motivation, and the quality of the schools all have a large impact on these patterns.

School has been described also as particularly stressful to temperamentally "difficult children" (Birch *et al.*, 1966). These are children who have irregular work habits and low frustration-tolerance, are slow in adapting to change and in coping with new situations, and tend to withdraw. These difficulties may be the result of previously experienced stressors. Whatever the origin of the difficulties, they put the child at high risk to experience elements of the school structure as stressful rather than supportive.

There is no doubt that the child carries into the school world, besides his own temperament and values, the resources and vulnerabilities secondary to the particular childrearing practices of his family. The school situation may be a source of stress for children not possessing problems of temperament when they come to school with community and family roles, concerns, and values markedly different from those of the school system. Such confrontations may serve as a continual source of stress for the child throughout his school years.

In this respect his degree of self-esteem seems particularly important since it has been related to position in the classroom social structure, utilization of intelligence in the achievement of tasks at school, and high interpersonal attraction for peers. (Coopersmith, 1959).

In those schools burdened with many children, underpaid teachers, and unresponsive political institutions, the potentially supportive and growth-enhancing capacities of the school experience may be severely impaired. Children may be exposed to experiences detrimental to their own particular needs. The environment may undermine their enthusiasm and belief in themselves and inculcate group attitudes and values that are conflicting for the child in his adjustment to his family and community. Some children may be able to cope with these complex situations; other more vulnerable children may not. For these children coming from disorganized families, stress may force them into increasingly inadequate styles of coping to the point of pathology (Jensen, 1974). The urban inner-city schools where

minority children are concentrated reflect these conditions.

In a study of elementary school children, Rutter *et al.* (1975c) noted that children's behavior varies according to the elementary school they attend, which points out the enormous impact of school life on the child's behavior. They found that behavior difficulties were more frequent in children attending schools with higher rates of teacher and pupil turnover. They noted the conflict arising from a clash of the child's values and those of the school, the effects of the style of teaching, and the modeling effects of teaching may all serve as sources of stress and pressures for inadequate styles of coping. This is particularly relevant in the case of Puerto Rican children because of their different cultural norms and values and their bilingualism. However, the demands which produce stress to the point of symptom formation are not the same for all children. As Glidewell (1977:744) stated:

> The intense, negative, slow-to-adapt children showed a higher incidence of behaviour problems -- typically in response to impatient, inconsistent, and punitive demands from adults. The moderate, positive, adaptable children showed a lower incidence of behaviour problems. When they did present problems it was in response to conflicting demands between the home and some external agent -- often a school.

Thus, school can produce stress in all children. Many cope well, a few indicate behavioral problems, and others occasionally indicate psychiatric illness. We must remind ourselves that the quality of teachers, school, and other students as well as the temperament of the child and his background are all important variables impinging on the final expression of stress and the ability of the school to function as a support system for the child. Coming from families with modest educational levels and being subject to instability which results from school transfers and high dropout rates, Puerto Rican children very likely confront an unstable environment in the educational system which therefore fails to provide enduring and effective social support.

We have briefly described areas in which the Puerto Rican family and the school system may become sources of stress and impair their social-support functions. An inappropriate school situation may lack the ability to play a supportive role in the life of the child, but such impairment is especially critical in the case of the family, in that the family serves as the primary social support network for children. We conclude that there are distinct factors operating within the context of the Puerto Rican migration experience which may limit the availability to the child of the family support network and, thus, heighten both his vulnerability to stressors and his ability to utilize the support network to minimize the resultant stress responses.

3

Health Status and Neurological Deficit

In line with our concern regarding situations which lead to disproportionate exposure to environmental risk which, in turn, leads to physical and mental health problems in children, we now focus our attention on the relationship between neuropsychological deficit, ethnicity, and social class. A considerable body of research suggests that the rates of central nervous system damage/dysfunction, or its symptoms, vary as a function of social class and ethnic group (Birch and Gussow, 1970; Pasamanick and Knobloch, 1961; Amante *et al.*, 1977). The position taken is that central nervous system pathology is inversely correlated with socioeconomic status. Low socioeconomic status and frequent environmental changes contribute to the development of stress in the Puerto Rican child; if, in addition, the child is at risk to central nervous system (CNS) pathology, the potential for disability is compounded.

There is increasing recognition that CNS disorders are related to various forms of obstetrical pathology which are themselves related to social class and ethnicity. This relationship has been viewed as a contributing factor to a wide range of medical, behavioral, and social problems (Adamsons and Fox, 1975; Amante *et al.*, 1977; Knobloch and Pasamanick, 1974). Among the conditions which have been related to neuropsychological deficit are mental retardation, minimal brain dysfunction, learning disabilities, certain types of mental illness, and various other psychopathological outcomes. Deficits in basic cognitive and motor abilities are seen as contributing factors to these outcomes (Amante *et al.*, 1977).

While clearly related to social position, the extent to which a group appears to be exposed to CNS dysfunction has been found also to be systematically related to observed differences between black and white persons along a number of behavioral and biological dimensions. The extent to which the differences are related to social class or ethnicity has long been an area of considerable controversy. It is not the concern of the present work

to chronicle this still-unresolved debate. We merely point out that, when social class is held constant, differences in the prevalence of CNS dysfunction between black and white persons have been observed, and there is equally compelling evidence that there are marked health differences between whites and blacks of the same socioeconomic status in terms of the quantity and quality of nutrition and prenatal and postnatal medical care (Birch and Gussow, 1970; Molina, 1973; Mussen *et al.*, 1974). Since many of these external environmental factors are known to alter the level of neurological integrity, it would seem imperative to control for neurological status when examining differences among ethnic groups.

This type of control was carried out in a study of black-white IQ differences by Amante *et al.* (1977). They found that when perceptually normal black subjects were compared with perceptually normal white subjects of the same social status, no significant IQ differences were observable. Amante *et al.* do indicate that this research needs replication; if, however, the relationship holds true in general, the resulting questions then become: To what extent are interethnic group differences in neurological status a function of genetic inheritance (Jensen, 1969)? To what extent are such differences a function of environmental disadvantage beginning in the prenatal period and extending through postnatal development (Gottesman, 1968)? Or, to what extent are such differences a function of a composite factor resulting from the joint interaction of both sources of variance (Loehlin *et al.*, 1975)?

Amante's theoretical orientation includes two ideas: (1) a variety of environmentally based factors represents the primary determinants of the ecological distribution of CNS dysfunction; (2) certain adverse conditions such as undernutrition and malnutrition, inadequate obstetrical and pediatric care, and higher rates of physical pathology at least partly determine both the total frequency and the intergroup differences in neurological pathology. An adaptation of these elements enables us to suggest the manner in which the Puerto Rican population may experience a disproportionate risk to just such pathology.

An essentially environmentally based theoretical orientation designed to conceptualize the events behind CNS dysfunction is clearly in line with our socioenvironmental approach to stressors and risk populations. This approach attempts to demonstrate that social variables may actually alter the physiochemical intrauterine environment in such a way as to exert an influence on the central nervous system during the embryonic and/or fetal development stages.

Among a host of environmental factors suggested as important in influencing CNS dysfunction are selective exposure to sources of

pollution, poor housing conditions, nutritional variables, and unhealthy work conditions. In Chapter 2 we indicated how stressful life events may function to precipitate physical and psychological reactions. Most of the above factors can be characterized as stressful life events and are thus potentially stress-inducing. This is important since maternal stress may be one of the variables affecting the development of the fetus.

These effects on the fetus, some of which might be neurological in nature, could be caused by biochemical alterations in the intrauterine environment, the result of both exposure to stressors and the stress response of the women. Based upon this causal chain which stretches from the social organization through the psychological and, ultimately, to the physiological, there is the possibility that the distributions of maternal psychopathology, complications during pregnancy, and fetal neurological handicaps are all interrelated (Amante *et al.*, 1970).

At the same time, there is considerable evidence indicating that the poor receive inadequate prenatal and postnatal childcare. This has especially been found to be the case among nonwhite women (Birch and Gussow, 1970). In reviewing research on the medical use patterns of the poor, Amante found that, generally, the poor tend to utilize clinics and emergency rooms rather than the fee-for-service physician system and that during pregnancy poor women are more likely to seek medical care later in the pregnancy cycle, consult infrequently with medical care personnel, and have children when they are too young or too old. Also, the poor are seen as less likely to seek out adequate pediatric care for their children during the postnatal period or to seek appropriate care for themselves (Amante *et al.*, 1977). It is of course difficult to assess to what extent these attitudes reflect previous experience with low-quality or inadequate medical service delivery systems and, as such, reflect the system rather than class-specific attitudes. The physiological correlates of these emotional reactions, combined with poor nutrition and poor medical care, are likely to lead to neurological deficits. As indicated there is considerable evidence to support the position that a complex array of mental and physical processes are elicited by acute or chronically stressful situations. In addition, if such events are more likely to occur to those in the lower social classes, then exposure to such situations may contribute to the development of both individual psychopathology in the pregnant mother and subsequent effects on the fetus.

Based upon the previous discussion it is reasonable to suggest that Puerto Rican children are at disproportionate risk to experience neurological insults during the prenatal and postnatal developmental stages. This is particularly relevant to our discussion since neurological damage has been found to be related to multiple types of impairment such as behavioral difficulties, learning

disabilities, and lowered thresholds to stress (Pasamanick *et al.*, 1956; Birch, 1972). We know also that neurological insults in themselves are not sufficient to explain future pathology, that is, even though retrospective studies indicate that children showing "cognitive deficit and/or social-emotional pathology differ from the population at large in that a disproportionately larger number were premature, experienced paranatal complications, or showed ambiguous diffuse indications of neurological dysfunction in infancy" (Escalona, 1974: 35), the results of projective studies are not as clear.

This is the case simply because subsequent experience is so important in the development of the child. If children who were premature or who suffered paranatal complications are exposed to an inconsistent, unsupportive, and stressful environment, they are likely to fare very poorly. In contrast, the effects of prematurity and paranatal complications may be surmounted when the child is immersed in a supportive environment. In industrial societies, severe and chronic poverty leads to a far higher prevalence of psychosocial and cognitive impairment and it is a predictor of early life conditions and developmental outcome.

Malnutrition and undernutrition are environmental factors capable of adversely affecting neurological integrity in the pre- and postnatal phases of development and are thus felt to be related to disproportionate risk to CNS dysfunction. Malnutrition refers to a harmful imbalance in the intake of nutrients, while undernutrition involves a reduction of caloric intake. In industrial societies, the incidence and prevalence of malnutrition and undernutrition are inversely correlated with socioeconomic status and are found to vary with ethnic group membership (Birch and Gussow, 1970; Winick, 1976; Amante *et al.*, 1977).

In developed countries severely malnourished children are a relatively small percentage of the population even among the disadvantaged minorities. However, in 1968 the Citizens' Board of Inquiry into Hunger and Malnutrition in the United States claimed that more than ten million Americans were affected by hunger and malnutrition (Warren, 1973). The groups at higher risk are pregnant women, preschool children, primary school children, and deprived groups. Although data are scattered and of uneven quality, they seem to indicate that economically and ethnically disadvantaged children eat poorly in both the preschool and school-age periods (Birch, 1972).

Nutritional inadequacy can affect CNS development. Since different parts of the central nervous system develop according to a distinct sequence, the effects of malnutrition vary depending upon the time when it appears, its severity, and its duration. Clearly, severe or chronic nutritional deficits occurring during critical phases of development are more likely to produce more

observable consequences in the child. In milder forms of undernutrition such consequences may be harder to assess and may be manifested only in learning or behavioral difficulties.

Malnutrition is believed to create a number of affective, motivational, cognitive, and behavioral problems: perceptual motor problems, learning or performance problems, and attention-span deficits (Barnes, 1971; Winick, 1976). Even though there is no definitive proof that malnutrition directly affects intellectual competence (Birch, 1972), there is some evidence that it has an impact on learning. We know that an adequate state of nutrition is essential for appropriate and sensitive responsiveness to the environment. Apathy and irritability are two of the more obvious clinical manifestations of malnutrition (Birch, 1972). It has also been reported that malnourished children have weaker powers of concentration and shorter attention span, which are motivational rather than intellectual factors.

Unfortunately, we have not been able to identify any source of information on the extent to which Puerto Rican children in New York City suffer from undernutrition and malnutrition. We can only assume that, due to their low socioeconomic position, Puerto Rican children are at disproportionate risk to experience undernutrition and malnutrition and thus potential impairment.

Gestational prematurity and low birth-weight prematurity may serve as sources of neurological insult to the child. Gestational prematurity refers to cases in which the pregnancy lasted 36 weeks or less, while low birth-weight prematurity refers to those cases in which the infant weighs less than 2501 grams at birth. During the last 20 years the percentage of low birth-weight babies born each year in New York City has been consistently higher than the percentage in the United States as a whole. This difference appears to be associated with the ethnic composition of New York City and the differentials in the prevalence of low birth-weights among various ethnic groups.

The total number of low birth-weight babies born in New York City increased slightly from 1955 to 1965 but has since declined fairly steadily: almost 15,000 recorded in 1955, almost 17,000 in 1964, and 10,000 in 1977 (City of New York, Summary of Vital Statistics, 1977). This numerical decline obviously reflects the size of the newborn population because the ratio of low-weight births to total births fluctuated relatively little during this period. In 1977, 9.2 percent of the births in New York City were low-weight, compared to 10 percent in the midsixties and 9 percent in 1955 (City of New York, Summary of Vital Statistics, 1977).

In New York City in 1977, 6.8 percent of non-Hispanic white babies, 9.2 percent of Puerto Rican babies, and 12.4 percent of black babies were cases of gestational prematurity. Thus, babies born to Puerto Rican and black parents are more likely to be

premature than those born to non-Hispanic white parents. From 1955 to 1977 the percentage of premature black and Puerto Rican births declined by about two points, while the percentage of white low-weight births decreased about half a percentage point (New York City, Vital Statistics, 1977).

Factors identified as correlates of low birth-weight include infant mortality, age of mother, illegitimacy, and inadequate prenatal care (Kessner, 1973; Pakter and Nelson, 1974). New York City birth and death statistics note that mortality rates in 1977 for newborns weighing less than 2501 grams were more than 16 times greater than for nonpremature infants (City of New York, Summary of Vital Statistics, 1977). Research indicates that high rates of infant mortality and low birth-weight in urban areas are associated with poor living conditions in these areas, as measured by low income, substandard housing, and broken homes (Struening *et al.*, 1973). Research indicates also that the low birth-weight babies who survive infancy are more likely to manifest developmental problems and experience a variety of disabilities (U.S. Department of HEW, HSMHA, 1972). Low birth-weight has been associated also with impaired performance on measures of mental development, school readiness, language development, and academic achievement from preschool through the early elementary school years (Rubin *et al.*, 1973).

The incidence of maternal mortality has long been used as an indicator of a group's or locality's general health. It is well established that the medical/social history of a woman may contribute to complications during pregnancy and childbirth, and such complications may result in increases in both physiological and psychological vulnerabilities.

In comparing the maternal mortality rate among island-born Puerto Rican women with that of other racial/ethnic groups it must be pointed out that this rate may fluctuate sharply from year to year because of the small number of such deaths which actually occur in New York City. For the period 1970 to 1977, the maternal mortality rates of island-born Puerto Rican women were greater than those of non-Hispanic whites, but not as high as those of nonwhites. During this period the mean mortality rate of Puerto Rican women was 3.5 per 10,000 live births, double the mean rate for non-Hispanic white women but lower than the rate of 5.5 for nonwhite women (City of New York, Summary of Vital Statistics, 1977). If these rates are compared with the overall rates of the seven previous years (1963-1969), group differences in the pace of maternal mortality decline may be observed. For island-born Puerto Rican women, the mean mortality rate was 6.0 per 10,000 live births; for nonwhite mothers, 11.5; and for non-Hispanic white mothers, 2.6. In the last 15 years the Puerto Rican mortality rate has declined significantly, while the nonwhite maternal

mortality rate declined almost twice as fast. Therefore, despite the real differences which still exist, mortality rates are tending to converge, especially among the island-born women and the non-Hispanic white women.

In the same way, the gap in the infant mortality rates has decreased in the past 15 years. In 1963 and 1964 the death rate was 28 to 30 per 1,000 live births for infants of Puerto Rican parentage in New York City. This rate was more than 40 percent above the rate for non-Hispanic whites in that period, but 25 percent below that of nonwhites. By 1975-1976 the mortality rates for Puerto Rican infants were almost indistinguishable from those of non-Hispanic white infants, while the nonwhite rates remained considerably above both of these. However, the rates did diverge again in 1977, the Puerto Rican group rising to 16.7 and the non-Hispanic white group declining to 14.2. In general, however, the rate of decline for both Puerto Rican and non-white groups was far more rapid than it was for others during this period (City of New York, Summary of Vital Statistics, 1977).

Despite the fact that the rates of maternal mortality and infant mortality among the racial/ethnic groups are converging, the differentials observed are significant in that they represent the most extreme pathological outcome. As such, it is easy to conceptualize that larger proportions of each group are at risk to poor infant and maternal health which may lead to increased vulnerability to health problems. Puerto Rican children appear to be at greater risk than non-Hispanic white children but less so than black children.

More than 36,000 infants were born out of wedlock in New York City in 1977, 7,000 more than in 1974, and 4,000 more than in 1970. In 1977, out-of-wedlock births were almost a third of all births, as compared to a fifth in 1970 (City of New York, Summary of Vital Statistics, 1977). In 1977 almost 15 percent of all live births to non-Hispanic white women, 53 percent of all live births to black women, and 48 percent of all live births to island-born Puerto Rican women were out of wedlock (City of New York, Summary of Vital Statistics, 1977).

In 1970 among those women who gave birth in New York City 8 percent of all non-Hispanic white women, 22 percent of all black women, and 16 percent of all island-born Puerto Rican women were under 20 years of age. In 1977, the respective figures were: 11 percent, 33 percent, and 15 percent (City of New York, Summary of Vital Statistics, 1977). In general, the proportion of births to women under 20 increased considerably for black women and slightly for white women, while remaining stable for island-born women. This stability for island-born women is, at least in part, the result of the aging of the island-born and the reduction in volume of the migrant stream in recent years.

Island-born women are, thus, less likely than black women to

give birth under age 20. At the same time, island-born women who have out-of-wedlock births are less likely to be under age 20 than are black or white women. If we conceptualize out-of-wedlock birth or youth of mother as a source of risk for children, then the Puerto Rican child is at greater risk than the non-Hispanic white child, but not at as great risk as the black child. However, risk to Puerto Rican children may be inaccurately portrayed by the data which consider only women born on the island as being Puerto Rican. We have no way of estimating maternal age or the proportion of out-of-wedlock births in the case of women of Puerto Rican parentage. Thus, we have no idea of the effect their inclusion might have upon the observed Puerto Rican rates.

Among the environmental factors posing possible risk of CNS dysfunction is the potentially damaging effect of lead exposure. The quantity of lead released into the environment has risen dramatically since the age of industrialization. Although the association between lead poisoning and paint has been suggested since the 1920's, it was only in the late 1960's that national concern developed over the possible health effects of environmental lead pollution. This concern arose after lead-poisoning screening programs unexpectedly uncovered thousands of "asymptomatic" children with excessive blood-lead levels.

Black and Puerto Rican children of New York City are disproportionately vulnerable to contracting lead poisoning (Guinee, 1972). This is not surprising since those most vulnerable to lead intoxication today are preschool-age children who live in old housing in which chips of paint from ceilings and walls constitute a major source of lead contamination (Chisholm, 1971; Guinee, 1972). Three factors appear to play important causative roles: deteriorated dwellings, parents with inadequate resources to satisfy the needs of the family, and pica in a toddler (Chisholm, 1971). In spite of preventive programs and active campaigns against lead-painted houses, the fact remains that old paint still continues to be a source of lead exposure in deteriorated housing, especially in large urban centers. Besides the well-known sequelae of permanent brain damage and renal abnormalities in children ingesting very large quantities, there are milder but, nevertheless, serious consequences.

In 1972, Guinee estimated that over 450,000 apartments in New York City still put children at risk to lead poisoning, despite the banning in 1959 of high-content lead paint on interior surfaces. The number of lead-poisoning cases reported in New York City annually has fluctuated greatly over the years, probably in association with the introduction of educational programs and attempts to improve the reporting system. In citing the work of Guinee (1972), Alers (1978) points out that blacks (62 percent) and

Puerto Ricans (22 percent) made up an overwhelming proportion of the reported lead-poisoning cases of children under 5 years of age in New York City during the first nine months of 1971.

As one result of national screening programs the diagnosis of lead poisoning became controversial, since most of the children with high blood-lead levels had no overt symptoms of poisoning. Initial screenings were made of inner-city slum children, 25 to 40 percent of whom were found to have elevated blood-lead levels. The magnitude of the problem increased when additional studies demonstrated that although undue lead absorption was found in all areas of the nation, children in urban slums were at highest risk. In addition to lead paint, high lead content was found in dust and soil in both cities and rural areas (Lin-Fu, 1975). While these findings explained to some extent the prevalence of excessive lead absorption among children, they did not clarify whether chronic low-level lead exposure causes permanent brain damage in the young.

Research studies have attempted to resolve this issue, but the results have been mixed and the topic is still controversial. Some studies have linked subclinical lead toxicity to mental retardation, impaired IQ deficits in fine and gross visual motor coordination, and hyperactivity, all of which had been previously reported as sequelae of overt lead poisoning (Lin-Fu, 1975). In addition, laboratory results indicate that even very low concentrations of lead can have adverse effects on neuron-ion metabolism (Silbergeld, 1978). Lin-Fu (1975) reports also that pathways mediating inhibition in the brain appear to be very sensitive to lead and suggests that disinhibition may underlie the neurobehavioral effects of lead absorption.

The continuing prevalence of undue exposure to lead is documented in data from the Center for Disease Control, which show that 7 percent of all children screened from 1973 through 1978 had undue lead absorption. Clearly, lead absorption must still be a major pediatric health concern, and minority children are at disproportionate risk to high blood-lead levels.

There is very little information available on the actual health status of New York City children generally or by racial/ethnic group. What little information is available is usually grouped by socioeconomic status. The National Health Interview Survey is one source of information on the health status of New York City children. Data for several years of this survey were combined at the request of the Foundation for Child Development and published in *The State of the Child: New York City* (Lash and Sigal, 1976). We briefly summarize some of these findings:

New York City children under age 17 had an average of 9.1 days of restricted activity per year during 1973-74, in comparison to 10.7 days of restricted activity for all children in the United

States. Younger children were found to have more short-term disability than 12- to 16-year-olds. Short-term disability is defined as a temporary restriction of normal activity which may be caused by injury or by an acute or chronic illness (Lash and Sigal, 1976: *40*). Regardless of age, New York City children in families with incomes under $6,000 had more days of restricted activity and bed disability than children in families with higher incomes. The poorer children had nearly twice as many restricted-activity days and more than double the number of bed-disability days. The same pattern of differentials in disability by income appeared in the national statistics.

More than half the acute conditions reported for children under age 17 were respiratory conditions. In New York City, acute conditions were found to be more prevalent among younger and poorer children. Children in families with incomes less than $6,000 annually suffered about one quarter more frequently from such conditions than children from financially more secure families.

The National Center for Health Statistics reports that 18 out of every 100 New York City children under 17 had an injury serious enough to require restriction of activity or medical attention in both 1973 and 1974. The comparable figure for the nation was 35.5 persons injured per 100 persons per year. For children under 12 the rate of injury was less than two-thirds that of older children. Children from families with an income of less than $6,000 per year had more than twice the rate of injury than children from higher income families.

In addition to the already mentioned risk factors, research indicates that the low-income population receives inferior treatment and undergoes marked differentials in the quality and quantity of medical care. At the same time, this population suffers from an inadequate distribution of medical care facilities. In the past, children from low-income families received less ambulatory medical care than children from high-income families. This differential has been greatly reduced in the United States in recent years as a result of Medicaid and other programs. In New York City in 1973-74, children from low-income families were more likely to have seen a doctor at least once a year than children from high-income families. Low-income children in New York City also have a higher average number of visits to physicians per year, perhaps reflecting their greater susceptibility to illness and injury (Lash and Sigal, 1976).

Lash and Sigal indicate that the type of medical care received by low-income children appeared less adequate than that received by children from high-income families. New York City children from low-income families were found to receive proportionately more of their care from hospital clinics and emergency rooms than from private physicians. It is believed that such patterns of hospital care

are less likely to fulfill preventive functions than the care of personal physicians.

That a large number of New York City families are living on low incomes and are thus at risk to a potentially inferior medical experience has been demonstrated by the Foundation for Child Development's analysis of the 1976 National Survey of Income and Education (Lash *et al.*, 1979).

This survey revealed that families with children were more likely to be living below the poverty level in New York City than nationally. More than 20 percent of all New York City children under age 18 were living below the poverty level, with children in female-headed families (56 percent) more likely to be living below the poverty level than those living in husband-wife families (9 percent).

At the same time, clear ethnic differences were observed in the percentages of New York City children living in poverty, with Hispanic and black children having poverty ratios more than four times higher than those of white children (Lash *et al.*, 1979: 107-115). Based upon the economic position of New York City Hispanic families and the findings of several studies which demonstrated differential health experience and medical care by socioeconomic status, it is reasonable to suggest that the health status and medical care experience of a large proportion of Puerto Rican children are inferior to that of other children.

In a recent work, Alers (1978) investigated the utilization of health services by metropolitan-area Hispanics. Using a metropolitan-area Blue Cross-Blue Shield survey, he found a disproportionate overutilization of outpatient facilities by Hispanics and blacks. The basis for this use pattern is seen as the lack of an adequate number of private physicians in the areas in which minorities live and the existence of the municipal hospital system in New York City. At the same time, a larger percentage of Hispanics were found to use the outpatient departments of municipal rather than voluntary hospitals and the proportion of Hispanics using municipal hospitals was greater than that of both blacks and whites.

These patterns were in contrast to patterns of emergency room use, which whites were found to employ to a much greater extent than blacks or Hispanics. Whites were also found to utilize the emergency rooms of voluntary hospitals to a greater extent than other groups. The utilization of emergency room care, thus, more nearly reflects the racial/ethnic structure of the area than did outpatient visits. In addition, Alers found that the reported income level of Hispanics and blacks using emergency rooms was similar to that of those using outpatient services, while whites using emergency rooms had higher incomes than those using outpatient services. Of special interest to the present work is the finding that

the outpatient clinic used most frequently by Hispanics was pediatrics. The proportion of Hispanics using pediatric clinics represented the highest level of utilization of any specialty clinic by any racial/ethnic group surveyed. The second most-utilized clinic by Hispanics was obstetrics. If one assumes that such clinics are used because of low income and the unavailability of private physicians, the prenatal and postnatal medical-care experience of Puerto Rican children appears to be inferior to that of other New York City children, although we realize that there are exceptions to this pattern.

Alers found that in every borough of New York City Puerto Rican areas had fewer physicians than other areas. Even of more relevance to this monograph is the fact that for the Bronx and Brooklyn, which contain a high percentage of Puerto Ricans, the greatest physician shortages exist in pediatrics and psychiatry/neurology. Speaking of inadequacies in primary interest areas, that is, areas of major medical specialties, Alers concludes: "Bearing in mind that the population in the Puerto Rican health areas in New York City represents 20.1 percent of the total population of all health areas, it can be noted that for almost every primary interest (except general practice and 'other') the Puerto Rican areas are receiving less than one-third their share of available physicians" (Alers, 1978: 49). Based upon these findings it is reasonable to conclude that Puerto Rican children and their parents are subject to differentials in medical care and these differentials may increase their vulnerability to health problems.

In previous sections we reviewed several major areas that overlap into the emotional-behavioral aspects of low socioeconomic status children: malnutrition and undernutrition, low birth-weight, infant and maternal mortality, and lead poisoning. We can conclude from this discussion that Puerto Rican children are at disproportionate risk to experience neurological insults during the prenatal and postnatal developmental stages. However, the likelihood that such exposure will result in later health problems is dependent upon the subsequent experience of the child.

Children who were born prematurely or who suffered paranatal complications and were then exposed to an inconsistent, unsupportive and stressful environment are quite likely to fare poorly. We suggest that Puerto Rican children are disproportionately found in this group. Their overall vulnerability is intensified by the differential availability and utilization of the health care system by metropolitan area Puerto Ricans.

As we have indicated, measures of health of Puerto Rican children compared to that of other New York City children are rare. One indication of general health which is available is the ethnic census of handicapped school children enrolled in special education programs. This group is particularly relevant to our

study because many of these children experience difficulties in the physical, emotional, and educational spheres.

The Division of Special Education and the Office of Student Support Services of the New York City Board of Education are concerned with educational programs and services for children certified as handicapped according to the regulations set forth by the New York State Commissioner of Education. Programs concentrate on providing services in the development of educational, social, vocational, and academic competence. The ethnic census of handicapped school children presents the health status of children enrolled in public elementary schools in New York City by breaking down the number of each racial/ethnic group diagnosed as handicapped, the types of handicaps each group experiences, and the specific programs to which these students are assigned. The following analysis uses data from the 1977-78 Pupil Ethnic Census. This census is preferred over the 1978-79 census since it provides us with a more detailed breakdown of the ethnic composition of specific programs for the handicapped than the 1978-79 census. Our description of this facet of the special education system and the criteria used for placement also refer to those in operation in 1978-79.

The Office of Educational Statistics, Board of Education of the City of New York, published citywide figures for 1977-78 of the ethnic composition of all elementary public school students (47,423) and 630 handicapped elementary school students. At the elementary school level, 37 percent of all students and 43 percent of handicapped students are black, 26 percent of all students and 27 percent of handicapped students are Puerto Rican, and 28 percent of all students and 25 percent of handicapped students are non-Hispanic whites. Thus, black children are considerably overrepresented in the handicapped group, white children are slightly underrepresented, and the percentage of Puerto Rican children who are handicapped is approximately equal to their percentage in the elementary school system.

In light of our previous hypothesis that Puerto Rican children are at high risk to a wide range of socioenvironmental stressors and thus also to potential impairment, it is surprising that Puerto Rican children do not appear to be disproportionately represented among the handicapped. We suggest that the proportion of handicapped Puerto Rican children may be underestimated due to factors unique to the Puerto Rican situation: The Puerto Rican family is extremely "child-centered" and the traditional woman's role of care and concern for children is accentuated. Combined with a perception of the school system as hostile and unresponsive, a climate of distrust may be generated between parent and school system, fed further by the linguistic differences of the participants. Within such an atmosphere, parents may fight the movement of

children from neighborhood schools, which is often required in the case of handicapped students, because they feel that children must be protected, especially those with special problems, and that safety is, for the most part, associated with physical closeness. Therefore, programs which involve the movement of children may be viewed unfavorably and circumvented through various forms of passive noncompliance. We urge that further research establish the relevance of family norms in the placement procedures of all children, but especially in the case of Puerto Rican children.

The statistics may be seen also as inaccurately estimating the prevalence of handicaps among Puerto Ricans because of poor assessment tools, lack of bilingual personnel to help parents in dealing with the system, and lack of awareness on the part of parents regarding their rights within the system, both to request and to contest placement within special schools. These factors may function in two ways: at times not identifying the handicapped child and, at other times assigning the non-handicapped child to a handicapped program.

While the data have so far established that black children are overrepresented and white children underrepresented among handicapped children, a more comprehensive picture of health status may be gathered through an analysis of the types of handicaps which afflict these children. Table 1 demonstrates that among elementary school children who are handicapped, white children exhibit a considerably higher prevalence of physical handicaps than either Puerto Rican or black children, Puerto Rican and black children exhibit a considerably higher prevalence of diagnosis as mentally handicapped than white children, and black children exhibit a higher prevalence of diagnosis as emotionally handicapped than Puerto Rican and white children, while the ethnic breakdown of comparative percentages of multihandicapped children is very similar.

The most striking point in Table 1 is the high proportion of physically handicapped white children. Given that white children in the public elementary school system are, on the whole, of higher social status than black or Puerto Rican children, and based on our previous discussion of CNS dysfunction, health-care patterns, and indicators of maternal and infant physical health, we would expect white children to have considerably better physical health than black or Puerto Rican children. To interpret this result further, several suggestions might be investigated: first, that the proportions may not accurately reflect the physical health of these children; second, that large numbers of physically handicapped black and Puerto Rican children are either not diagnosed as handicapped or if they are diagnosed as handicapped, it is as either intellectually or emotionally handicapped; third, that white children are overdiagnosed as physically handicapped, a diagnosis preferable

TABLE 1
Type of Handicap of Elementary-Level Students by Racial/Ethnic Group, Citywide, October 1977

Type of handicap	All Students[a]		RACIAL/ETHNIC GROUP					
			Black		Puerto Rican		White	
	n	%[b]	n	%[b]	n	%[b]	n	%[b]
Physical	5,306	38	1,976	32	1,361	37	1,698	48
Mental	4,908	35	2,210	36	1,471	40	993	28
Emotional	2,425	17	1,282	21	572	15	509	14
Multihandicapped	1,240	9	623	10	277	7	308	9
Total handicapped[c]	13,879		6,091		3,681		3,508	

Source: *Pupil Ethnic Census, 1977, Board of Education, City of New York.*

[a] *Includes American Indian, Alaskan-born, Asian or Pacific Islander, and other Spanish-surname ethnic groups.*

[b] *Percentages have been rounded for clarity of presentation.*

[c] *Does not include handicapped children in preplacement classes.*

to other classifications since it may be less stigmatizing for the child (and the parents) or because these programs may be viewed as more desirable than others in terms of environment, pupil-teacher ratios, and curriculum. At the same time, it is possible that the more extensive natal and pediatric medical care available to some children may function to diagnose physical abnormalities which might otherwise go undetected.

Of those students characterized as mentally handicapped, Puerto Rican children constituted the largest percentage. Some of these diagnoses may be reflected in the variation in socioeconomic status of each group. However, the extensive use of evaluation mechanisms reflecting the dominant Anglo culture may also account for a portion of the minority overrepresentation.

More minority than white children are diagnosed as emotionally handicapped. These are children who because of emotional factors do not or cannot be expected to benefit from regular classroom instruction. All children who are admitted into these special programs must be clinically certified as emotionally handicapped by the appropriate evaluation unit and the evaluation must be approved by the Committee on the Handicapped. Despite these procedures, the overriding importance of the face-to-face evaluation process and the evaluator's preconceived perceptions of appropriate behavior, attitudes, and values may all heavily impact on the frequency of this diagnosis.

Since the categories of mental and emotional handicaps are potentially ambiguous, they may also tend to serve in some cases as catch-all categories for those whose diagnosis is uncertain. This implies that in some cases the symptoms manifested by children which may result in a diagnosis of a mental or emotional handicap may, in fact, have an organic basis, which has gone undetected. A significant proportion of emotional and mental handicaps may be the result also of socioeconomic deprivation acting in concert with cultural, linguistic, and racial differences.

Having observed these clear differentials in regard to placement in handicapped categories by racial/ethnic group, it seems reasonable to ask also to what extent we observe differences among ethnic groups in terms of specific program representation within each of the handicapped categories, and, if such differences exist, how they are to be interpreted.

Table 2 presents the distribution by program for all physically handicapped elementary school children by racial/ethnic group. The percentage of elementary school handicapped students who are assigned to the Health Conservation No. 20 Programs (for those seriously health-impaired and crippled) is small and similar for each group, and even smaller percentages of children in each group are categorized as visually impaired, with little variation between the groups. Within the Health Conservation Program (for

TABLE 2
Placement of Physically Handicapped Elementary-Level Students by Racial/Ethnic Group, Citywide, October 1977

Type of Placement	All Students[a]		RACIAL/ETHNIC GROUP					
			Black		Puerto Rican		White	
	n	%[b]	n	%[b]	n	%[b]	n	%[b]
Health conservation #20[c]	316	6	100	5	80	6	108	6
Visually handicapped	130	3	55	3	38	3	20	1
Health conservation	463	9	182	9	154	11	91	5
Brain-injured	3,972	75	1,525	77	921	68	1,367	80
Language & hearing impaired	425	8	114	6	168	12	112	6
Total physically handicapped[d]	5,306		1,976		1,361		1,698	

Source: *Pupil Ethnic Census, 1977, Board of Education, City of New York.*

[a] *Includes American Indian, Alaskan-born, Asian or Pacific Islander, and other Spanish-surname ethnic groups.*

[b] *Percentages have been rounded for clarity of presentation.*

[c] *For those seriously health-impaired or crippled.*

[d] *Does not include handicapped children in preplacement classes.*

those with nonsevere health problems) are 11 percent of the handicapped Puerto Rican, 9 percent of the black, and 6 percent of the white handicapped children.

Among elementary school students who are physically handicapped, white and black children exhibit a higher frequency of diagnosis of brain injury than Puerto Rican children. It may be helpful to ask about the difficulty, ambiguity, and necessity of extensive testing in the diagnosis of brain injury. If extensive testing is necessary or if the criteria are ambiguous, are adequate facilities equally available to all children during evaluation prior to placement? To what extent may Puerto Rican children be misdiagnosed, perhaps as emotionally handicapped or mentally retarded rather than brain-injured? Whatever reasons may be suggested for such misdiagnoses (linguistic difficulties, etc.), they would appear to be specific to the Puerto Rican population since the black profile for brain injury is quite close to that of white children. Again, parents of white children may have better resources to secure a diagnosis of brain injury during the placement process. This assumes such placement is viewed positively and that parents have the ability to go outside the system as well as to take advantage of any useful alternatives to it.

Among elementary school children who are diagnosed as physically handicapped, Puerto Rican children exhibit a greater frequency of diagnosis of language and hearing impairment than either white or black children. The question is whether the above relationship is the result of systematic misdiagnosis, or if there are really significant numbers of Puerto Rican children suffering from language impairment. Are Puerto Rican children being diagnosed as language-impaired when it is actually a question of language-learning?

The Board of Education criteria are that language impairment may be due to hearing loss, neurological dysfunction, aphasia, or a combination of these problems. However, other factors allow classification of language impairment. One is bilingual confusion (when the child's environment provides another language almost exclusively and when one or more of the three preceding factors exist). However, a child's not having gained facility in either of the environmental languages, is not, of itself, sufficient to indicate a diagnosis of language impairment.

The above criteria do not appear to actually favor the overrepresentation of other-language-speaking groups, but this is the case. Therefore, we conclude that the Puerto Rican children either have the physical symptoms (to a greater degree) or are misdiagnosed despite the stated criteria. If the symptoms are present, the possibility exists that these language impairments may be associated with CNS dysfunction and brain injury, in which case the child may be misassigned.

In general, the data on types of physical handicaps do not initially appear to support the hypothesis that the Hispanic population manifests greater physical disability as a result of being at greater "risk." Indeed, the data suggest that not only is the incidence of physical disability considerably greater for whites than Puerto Ricans, but also, when considering the composition of the physically handicapped, the white child is more seriously handicapped than the Puerto Rican child. Support for this suggestion comes from the higher proportion of brain-injured among whites and the lower proportion of white children in Health Conservation classes for the not seriously impaired. Additional support for this view may exist if a portion of those Hispanic children diagnosed as language-impaired are, in fact, misdiagnosed and not actually handicapped.

Table 3 demonstrates the ethnic/racial composition of the major programs for the emotionally handicapped. The small numbers of children diagnosed as autistic and the small numbers placed in transitional classes (those that follow residential and outpatient treatment) may make any conclusions or interpretations of those categories inappropriate.

The following criteria apply to the other two categories, "A" and "B" Centers: (1) average or above-average intellectual capacity, (2) absence of major neurological deficit, and (3) ability to profit from group experience. The "A" Centers are for those with a primary diagnosis of severe emotional handicap, exhibiting such characteristics as thinking disorders, bizarre behavior, and severe emotional crises. The "B" Centers are for those with a primary diagnosis of moderate emotional handicap. Among those diagnosed as emotionally handicapped, Puerto Rican children exhibit a considerably higher prevalence of severe emotional disorder than black children whose prevalence is, in turn, significantly higher than white children. Therefore, while a larger percentage of black children are diagnosed as emotionally disturbed, it is the Puerto Rican children who are diagnosed as severely disturbed to a greater degree than black children and to a much greater degree than white children.

Once again, we must question the likelihood or possibility of misdiagnosis. A potential problem is the Board of Education's stated criterion of "an absence of major neurological deficit." Obviously, the questions are: When is such a deficit major and when is it not? What are the potential implications of cultural factors? In addition, placement in the "A" and "B" Centers is based upon "a primary diagnosis of severe or moderate emotional handicap." What is meant by "primary" diagnosis? What are the criteria? In what way are they susceptible to cultural bias? And, most important, what is the possible relationship between these two issues and the diagnosis of a *major* neurological handicap?

TABLE 3
Placement of Emotionally Handicapped Elementary-Level Students by Racial/Ethnic Group, Citywide, October 1977

Type of Placement	All Students[a]		RACIAL/ETHNIC GROUP					
			Black		Puerto Rican		White	
	n	%[b]	n	%[b]	n	%[b]	n	%[b]
Autistic	30	1	14	1	7	1	7	1
Transitional	12	—	8	1	4	1	—	—
"A" Center[c]	881	36	459	36	254	44	142	28
"B" Center[d]	1,502	62	801	63	307	54	360	71
Total emotionally handicapped[e]	2,425		1,282		572		509	

Source: *Pupil Ethnic Census, 1977, Board of Education, City of New York.*

[a] *Includes American Indian, Alaskan-born, Asian or Pacific Islander, and other Spanish-surname ethnic groups.*

[b] *Percentages have been rounded for clarity of presentation.*

[c] *Those in "A" Centers have a primary diagnosis of severe emotional handicaps.*

[d] *Those in "B" Centers have a primary diagnosis of moderate emotional handicaps.*

[e] *Does not include handicapped children in preplacement classes.*

\- *Less than 1 percent.*

Are the diagnostic procedures such that Hispanics, who might well be classified as physically handicapped, are actually classified as emotionally handicapped and as a consequence diagnosed as having severe emotional problems? These areas are all problematic and may not even operate in a systematic way throughout the entire school system. If this is the case, it is extremely difficult to gauge their impact.

The data in Table 4 show that among those children diagnosed as mentally handicapped nearly twice the percentage of white children are located in CRMD Track IV programs for the severely mentally retarded as the percentages of mentally handicapped black and Puerto Rican children, although Puerto Rican and black children have a considerably higher prevalence of diagnosis as mentally handicapped. Therefore, among children who are diagnosed as mentally handicapped, white children have a greater prevalence of placement in programs for the severely mentally retarded than black and Puerto Rican children.

Among those children diagnosed as mentally handicapped, a larger percentage of white children were placed in CRMD-TMR programs for the trainable mentally retarded than Puerto Rican or black children. Thus, among such children, whites have a greater incidence of diagnosis as trainable than either blacks or Puerto Ricans. Among those children diagnosed as mentally handicapped, a higher percentage of black and Puerto Rican children were placed in programs for the educable mentally retarded than white children.

Thus, while a larger proportion of black and Puerto Rican handicapped children are diagnosed as mentally handicapped, white children who are mentally handicapped are being diagnosed as more severely handicapped and less educable. Once again, it is difficult to interpret this situation. There is the possibility that programs for the more severely retarded are in some ways better than those for the less severely retarded. If this is the case, parents may actively lobby to have their children categorized as severely retarded for placement purposes. We might ask the whereabouts of the minority children who are seriously retarded. We can theorize that, due to cultural bias of the testing procedure, minority children may be classified as retarded when they are actually not, thus inflating the numbers of nonseverely retarded minority children. However, our acceptance of this point might also indicate that the percentages of minority children labeled as handicapped actually should be lower.

Puerto Rican and white handicapped children had a slightly lower incidence of diagnosis as multihandicapped than black handicapped children. The data in Table 5 show that multihandicapped Puerto Rican children are not as highly concentrated in the brain-injured, emotionally handicapped program as white and

TABLE 4
Placement of Mentally Handicapped Elementary-Level Students by Racial/Ethnic Group, Citywide, October 1977

Type of Placement	All Students[a]		RACIAL/ETHNIC GROUP					
			Black		Puerto Rican		White	
	n	%[b]	n	%[b]	n	%[b]	n	%[b]
CRMD Track IV[c]	441	9	181	8	102	7	125	13
CRMD-TMR[d]	1,243	25	510	23	357	24	311	31
Educable mentally retarded	3,224	66	1,519	69	1,012	69	557	56
Total mentally handicapped[e]	4,908		2,210		1,471		993	

Source: *Pupil Ethnic Census, 1977, Board of Education, City of New York.*

[a] *Includes American Indian, Alaskan-born, Asian or Pacific Islander, and other Spanish-surname ethnic groups.*

[b] *Percentages have been rounded for clarity of presentation.*

[c] *For the severely mentally retarded.*

[d] *For the trainable mentally retarded.*

[e] *Does not include handicapped children in preplacement classes.*

TABLE 5
Placement of Multihandicapped Elementary-Level Students by Racial/Ethnic Group, Citywide, October 1977

Type of Placement	All Students[a] n	All Students[a] %[b]	RACIAL/ETHNIC GROUP Black n	Black %[b]	Puerto Rican n	Puerto Rican %[b]	White n	White %[b]
Brain-injured, emotionally handicapped	915	74	477	77	191	69	229	74
Doubly handicapped/ CRMD	325	26	146	23	86	31	79	26
Total multihandicapped[c]	1,240		623		277		308	

Source: *Pupil Ethnic Census, 1977, Board of Education, City of New York.*

[a] *Includes American Indian, Alaskan-born, Asian or Pacific Islander, and other Spanish-surname ethnic groups.*

[b] *Percentages have been rounded for clarity of presentation.*

[c] *Does not include handicapped children in preplacement classes.*

black multihandicapped children, while at the same time they are more highly concentrated in the doubly handicapped CRMD program (for those both physically crippled and mentally retarded). The same evaluative questions apply regarding the potential impact of cultural bias and linguistic problems in testing and screening.

Table 6 presents the racial/ethnic composition of schools for the severely emotionally disturbed. There is a clear disparity in the racial/ethnic percentages of emotionally handicapped children in residential and day treatment facilities. If placement in residential facilities corresponds to severity of condition, Puerto Rican children are considerably worse off than black children who are, in turn, more seriously handicapped than white children. Table 6 demonstrates that more severely emotionally handicapped black children are located in day schools than Puerto Rican and white children. These students are, in the great majority, the acting-out type, whose behavior disorder is manifested by repeated aggressive and destructive behavior. The results of Table 5 are in agreement with those of Table 3 which indicate the severity of the emotional handicaps of Puerto Rican children compared to black and white children.

In summary, New York City's 1977-78 Pupil Ethnic Census reveals a number of clear differentials between the racial/ethnic groups in regard to percentages of handicapped, types of handicaps, and diagnosed severity of these conditions. An examination of this information has specifically revealed that: The proportion of handicapped Puerto Rican children is approximately what their composition in the school system would indicate, while black children are considerably overrepresented among the handicapped and white children are slightly underrepresented. The prevalence of physical handicaps is considerably greater among white children than among Puerto Rican and black children and, when considering the composition of the physically handicapped group, white children appear to be more seriously handicapped than Puerto Rican children. At the same time, a higher percentage of handicapped Puerto Rican and black children were evaluated as mentally handicapped than handicapped white children, although white children were more likely to be placed in programs for the severely mentally retarded than black and Puerto Rican children. We found black children were slightly more likely than Puerto Rican and white children to be evaluated as emotionally handicapped. However, it was the Puerto Rican children who were evaluated as in need of programs for the severely disturbed to a greater degree than were black children and to a much greater degree than white children. Clearly, the picture presented by these data is a complex one, and real questions remain regarding the extent to which this information reflects the institutional procedures through which these children are referred, evaluated, and placed and the actual health status of these children.

TABLE 6
Placement of Severely Emotionally Handicapped Elementary-Level Students by Racial/Ethnic Group, Citywide, October 1977

Type of Placement	All Students[a]		RACIAL/ETHNIC GROUP					
			Black		Puerto Rican		White	
	n	%[b]	n	%[b]	n	%[b]	n	%[b]
Residential treatment centers	224	21	102	20	65	31	55	17
Day treatment centers	539	49	208	40	73	35	240	73
Psychiatric hospitals	158	15	84	16	47	22	22	7
Day schools	162	15	123	24	26	12	12	4
Total severely emotionally handicapped[c]	1,093		517		211		329	

Source: *Pupil Ethnic Census, 1977, Board of Education, City of New York.*

[a] *Includes American Indian, Alaskan-born, Asian or Pacific Islander, and other Spanish-surname ethnic groups.*

[b] *Percentages have been rounded for clarity of presentation.*

[c] *Does not include handicapped children in preplacement classes.*

4

MENTAL HEALTH

Although research on the mental health of Puerto Rican children in New York is scarce, there are some studies which when brought together provide a tentative profile of the mental health of Puerto Rican adults in New York. These studies, using different methodological procedures and data sources, indicate that the reported mental health of Puerto Ricans is poorer generally than that of the non-Hispanic white population. If this is the case, it may also be that the mental health of Puerto Rican children is similarly poor.

A very real question is whether or not the reported higher rates of mental health problems reflect the actual prevalence of such problems in the population. This question is valid for any population, but it is especially relevant in the case of an ethnic minority population. To what extent, we ask, are referral agencies and clinics, and the evaluative techniques and procedures used by them, culturally sensitive to the behavior of the Puerto Rican child?

In this chapter we comment briefly on several studies dealing with the mental health of Puerto Rican New Yorkers, discuss some areas in which culturally sensitive evaluation is required, and present a profile of the mental health of Puerto Rican children from data collected by the New York State Department of Mental Hygiene.

It has generally been acknowledged throughout the literature that diagnosed mental health problems are not distributed randomly in the population but tend to concentrate within definable subgroups. As discussed in Chapter 1, the major dimensions traditionally associated with such variations are those of migration, social class, and race.

In regard to migration, the transition from one society to another apparently constitutes a hazardous situation leading to increased risk of psychiatric hospitalization. Although we do not

yet understand the mechanisms by which social processes such as migration are related to mental illness, the discontinuities between the characteristics of the point of origin of the migrant and those of the point of destination appear to be of considerable importance in estimating the number and the intensity of the stressors to which the migrant may be exposed. In much the same way, low socioeconomic status may make the individual especially vulnerable to stress deriving from socioenvironmental factors and from individual life events which put pressure on the psychological equilibrium of the individual and the family.

The Puerto Rican population in the continental United States is made up of largely first- and second-generation migrants who occupy the bottom levels of the mainland social structure. As a result of stress factors -- migration and subordinate social position -- it appears that the Puerto Rican population presents a mental health profile that is different from other nonmigrant, higher status groups. New York City's Puerto Rican population has been found to have higher rates of reported mental illness than other ethnic groups or the city population in general. Malzberg (1956), in his analysis of the first admissions of all New York City residents to New York State psychiatric hospitals for the period 1949-51, concluded that the admission rate was considerably higher for Puerto Ricans than for non-Puerto Ricans. In addition, 58 percent of all Puerto Rican first admissions were diagnosed as *dementia praecox*, compared to 29 percent for non-Puerto Ricans, with the rates for male Puerto Ricans more than twice as high as those for non-Puerto Rican males.

Fitzpatrick and Gould (1968) replicated this work based upon 1967 hospital admission figures for New York State. They concluded that there exists an even greater disparity in the rates of reported first admissions and diagnosed schizophrenia between Puerto Ricans and the general population than was observed by Malzberg.

For the period 1960-61, Malzberg (1965) noted that, in contrast to the usual patterns observed among immigrant groups, Puerto Ricans born on the mainland had higher total rates of psychiatric admission than did island-born Puerto Ricans. Perhaps the higher educational levels and better economic position of the mainland-born Puerto Ricans, compared to the larger island-born community, created stressful social discontinuities for this group, at the same time that the effectiveness of traditional support systems was decreasing. The island-born group may have discriminated against those born on the mainland by excluding them from the community integration which could cause the latter group to develop a sense of separation from the larger Puerto Rican community and its supportive network. This is noteworthy because education and improved economic position are generally

felt to increase the ability of the individual to cope with stress and retain psychological equilibrium.

In addition, the importance of the racial dimension for Puerto Ricans is noted by Malzberg (1965) in his finding that admission rates for psychiatric treatment for nonwhite Puerto Ricans were higher than for white Puerto Ricans. Whether the cause of this disparity was based upon perception of and reactions to color or upon differential social class unfortunately was not investigated. It might, however, demonstrate how members of an ethnic group are subject to unique sources of stress or differing levels of stress which depend upon intra-ethnic differences.

Several studies utilizing administratively collected data provide additional information on the mental health of Puerto Ricans in New York City. In a study of service delivery to mentally ill residents of the Metropolitan Community Mental Health Center Catchment Area from 1970 to 1973 (National Institute of Mental Health, 1976), the admission rates for non-Hispanic whites were found to be considerably lower than those for blacks and Puerto Ricans: 251.6 Puerto Rican treated outpatients per 10,000 Puerto Ricans in the general population; 158.7 per 10,000 blacks; and 53.6 per 10,000 whites. Similarly, for inpatients, Puerto Rican admission rates were twice those for whites. It was found that a significant portion of this differential was the result of the practice of upper-middle-class whites using facilities outside of the catchment area while the Puerto Rican population of the area were found to use the facilities there to a considerably greater extent than did either black or white non-Hispanic residents.

Another study conducted at the same time in the Bellevue Catchment Area of New York City (National Institute of Mental Health, 1976) found that admission rates for Puerto Ricans and blacks were higher than those for whites. However, black and Puerto Rican clients had fewer outpatient visits per admission than did white clients, suggesting a differential treatment profile for minorities. The basis for this differential may lie partially in the client's attitude toward these services, but it may also be the result of the administrative policies of the facilities, the lack of bilingual personnel, and the absence of culturally sensitive treatment modalities.

Oscar Alers (1978), also using citywide figures for admission to all local community mental health and retardation facilities, reported that the total admission rate for Puerto Ricans was approximately twice the rate for non-Hispanics. At the same time, the data demonstrate that the rates for whites were lower than for Puerto Ricans and blacks for all major diagnostic categories.

In an earlier major study of residents of midtown Manhattan, Srole *et al.* (1962) found that half of the 27 Puerto Ricans in their

sample were diagnosed as having severe or incapacitating symptoms. While the number of Puerto Ricans in the survey was quite small, this rate was double the rate for any other subgroup in the study. Later evaluation of this study suggested that the differential indications of mental illness may have been due to a bias in the research methodology and to cultural differences (Dohrenwend, 1966). In a survey of more than 1,000 residents in the Washington Heights section of New York City, Dohrenwend and Dohrenwend (1969) found that Puerto Ricans reported significantly greater numbers of psychiatric symptoms than their social-class counterparts in other ethnic groups, and they noted that some of the observed differences may have been due to methodological factors such as cultural differences in response styles, language used to express psychological distress, and concepts of socially desirable behavior.

If an accurate profile of Puerto Rican mental health is to be developed, it will be necessary to assess further a number of areas suggested directly and indirectly in the research reviewed above. In light of this, before presenting the available data on the mental health of Puerto Rican children, we will discuss some important clinical issues which should be considered in the assessment of all children, but especially of children from diverse cultural backgrounds.

In evaluating a child, a clinician usually depends on the clinical interview and family history. Utilizing specialized tests, he further assesses and confirms his initial impressions. The more reliable and detailed the history, the more the clinician can understand and interpret the child's communication patterns during an interview. Similarly, reliable and validated psychological tests aid the clinician in arriving at an accurate diagnosis. Because of the complicated interaction between psychological, social, and physical factors in the child's behavior, the clinician must also be trained to assess the importance of each of these areas and understand the quality of their interplay at any particular point in time. The clinician must recognize that overt behavioral patterns may have different meanings in individuals from different cultural and socioeconomic backgrounds.

When major stress factors impinge on a child's development and the inconsistencies of his environment challenge his coping abilities, it is possible that his behavioral modes of expression may be misinterpreted as mental illness. This becomes more complex when the child comes from a different culture, speaks a different language, and is a member of a different social class. The clinician then encounters difficulties in distinguishing the cultural from the symptomatic. He must be aware that the incidence and particular style of symptoms reflect not only the intrinsic mechanisms of the child, but also parental expectations.

Many Puerto Rican children develop skills in both English and Spanish to manage everyday activities. Marcos *et al.* (1979) point out that the patients' bilingualism can interfere with their ability to understand the meaning of a therapist's vocal or paralinguistic cues, such as intonation, emotionality, and pauses. As a result of the patient's linguistic deficits, the therapist may encounter difficulties in distinguishing clinically relevant verbal cues. Bilingualism is of importance also in assessing expressions of highly charged emotional material and its impact on the sense of "self." Marcos believes that bilingual patients may feel and perceive themselves as two different persons according to the language they speak. Although this research was done primarily with adults, the impact of bilingualism must be even greater in the assessment of Puerto Rican children who are already struggling with their sense of self both developmentally and culturally. A child may speak Spanish at home and be able to express his family life best in Spanish, while other aspects such as school and peer-group activities may be expressed best in English. Thus, in assessing a child, language and communication become a central issue. Certainly, the quality and appropriateness of such a child's affect would be more fully understood by a bilingual clinician.

Another important dimension in the diagnosis of these children is the testing characteristically used to understand a particular psychological makeup. Since placement in special education programs and many mental health facilities depends on initial screening tools, a review of standardized tests as they apply to Puerto Rican children is particularly relevant. Although these children are not placed or referred to these facilities solely based on the results of these tests, their results are frequently misused or misinterpreted.

Factors such as bilingualism, low socioeconomic status, and lack of motivation have been described in the literature as explaining the general poor performance by Hispanic children on these standardized tests. In addition, numerous researchers have studied the effects of bilingualism on intelligence. Some have concluded that bilingualism has a detrimental effect on intelligence (Darcy, 1953 and 1963) while others have found that bilingualism has a favorable effect on intelligence (Peal and Lambert, 1962). Still others have found no relationship between the two (Darcy, 1953). This inconsistency in findings may be related to the problems and complexities involved in the study of bilingualism; among them, intrinsic difficulties in isolating the effects of bilingualism from those of other variables (social, economic, political, and psychological), the variety of tests used, the relationship of bilingualism to conceptual thinking, difficulties in determining the degree of bilingualism, and the fact that definitions of bilingualism have varied from one researcher to another (Darcy, 1963).

Furthermore, the way in which the two languages have been learned needs to be considered. In many Puerto Rican families the child learns Spanish at home and English in school. One language develops in one set of situations and the other in another set, thus potentially limiting the child's vocabulary in one of the languages to only certain areas (Anastasi and Cordova, 1953).

Not only is the language of the child important but the language in which the test is given and the language of the examiner are equally important. Several studies have compared the performance of Hispanic children on English and Spanish versions of the same intelligence test. In some cases, scores obtained on the Spanish version were considerably higher than scores obtained on the standard English version (Zirkel, 1972). For the most part, however, the use of Spanish translations has not resulted in higher IQ scores for Spanish-speaking children (Padilla and Ruiz, 1973).

Keston and Jiminez (1954) selected a random sample of 50 fourth-grade Spanish-American children drawn from five different schools in Albuquerque, New Mexico. The children were administered Form M of the Stanford-Binet Intelligence Test. A month later, the children were administered a Spanish version of Form L of the Stanford-Binet. All tests were administered by a bilingual Spanish examiner. The mean IQ on the English version was 86.0; the mean IQ on the Spanish version was 71.8. The authors concluded that the children performed more poorly on the Spanish version possibly because their level of development in the Spanish language was much lower than their level of English. Since the language of formal instruction was English, and since the Stanford-Binet reflects the educational achievement of children, higher scores on the English version could be expected.

In a study employing a sample of 78 Mexican-American children in grades kindergarten through 4, Thomas (1977) administered a standard English version of the Peabody Test Form A to half the subjects followed by a Spanish version of Form B. The other half of the group was administered a Spanish version of Form A followed by an English version of Form B. The results showed that the subjects scored significantly higher on the standard English version.

The failure of Spanish versions to produce higher IQ scores with Hispanic children may be related to a number of difficulties which arise from the use of translations. Meaning may be lost in translation or the level of difficulty may be altered. Often, adaptation and revision of content are required. Furthermore, translations result in problems regarding comparability of norms and equivalence of scores (Anastasi, 1976). Further research is clearly needed in this area.

In terms of the importance of socioeconomic status, a review of the literature reveals a consistent relationship between social class

and intelligence. In general, lower-class groups perform more poorly than middle-class groups on standardized IQ tests. Socioeconomic status has been found to be an important variable in a number of studies in which Puerto Rican and other Hispanic children obtained significantly lower IQ scores than did other groups (Anastasi, 1953; Christiansen and Livermore, 1970; Hertzig and Birch, 1971; Marmorales and Brown, 1975). We do not state that there are constitutional or intrinsic deficiencies in this population nor do we attempt to make any direct correlation, since in the case of Puerto Rican children the interplay of multiple variables may affect their performance. Our objective is only to underline factors that must be considered in the interpretation of the results.

In terms of motivational factors, Anastasi and Cordova (1953) underlined the importance of the children's attitude toward the testing, stating that lack of motivation and lack of interest may be the reasons for inferior test performance. Zigler *et al.* (1973) supported this as an explanation for low results on the Peabody Picture Vocabulary Test.

Higher scores were obtained in a group of Puerto Rican children when the Puerto Rican examiner encouraged active participation, verbalization, and effort on the part of the subjects (Thomas *et al.*, 1971). Reports have also described the enthusiastic response received from Spanish-speaking preschoolers when they were tested by an examiner of the same ethnic group (Anastasi and DeJesus, 1953).

A final variable to consider is the differential response of Hispanic children to verbal and performance tests. In general, studies investigating the performance of Hispanic children on standardized intelligence tests have indicated that, as a group, these children demonstrate more difficulties when verbal IQ tests are employed as instruments of assessment. In most instances, however, these difficulties appear to diminish when nonverbal or performance tests are used.

In an early study, Dunklin (1935) administered a Spanish translation of the Pintner-Cunningham Primary Test, the Pintner Non-Language Primary Test, the Pintner-Paterson Performance Scale, and another performance scale developed by the author to 35 Puerto Rican children in the first grade of a New York City public school. Dunklin found that the median IQ of the Puerto Rican children on the two individual performance tests and on the Pintner Non-Language Test was equal to the American norms. However, performance on the Pintner-Cunningham was inferior to the American norms.

Darcy (1952) addressed the question of whether there would be a significant difference between IQ scores achieved on the Pintner General Ability Test, Verbal Series and scores achieved on the

Pintner General Ability Test, Non-Language Series, in a study using 235 bilingual Puerto Rican children in the fifth and sixth grades of two New York City public schools. Results showed that the mean IQ on the Pintner Non-Language Test was significantly higher than the mean IQ on the Pintner Verbal Test.

Altus (1953) studied two groups of retarded children, one bilingual and of Mexican descent, the other unilingual and of non-Mexican descent. The groups were equated on the variables of age, sex, and Performance IQ on the WISC. Differences between the two groups in IQ on the Verbal Scale of the WISC were significant, with the unilingual group averaging 17 points higher than the bilingual Mexican-American group. All the verbal subtests showed significant differences at the .01 level of confidence. The most striking differences occurred on the Vocabulary, Information, and Similarities subtests.

Anastasi and Cordova (1953) used the Cattell Culture Free Test, Forms 2A and 2B, to test 176 Puerto Rican children in grades 6, 7, and 8 in a parochial school in New York City. Half of the children received the test instructions of Form A in English during the first testing session. During the second testing session, the same half received the test instructions of Form B in Spanish. For the other half of the children the order of the languages was reversed. The results demonstrated that the performance of the Puerto Rican children was considerably lower than the norms reported by Cattell.

Christiansen and Livermore (1970) compared the performance of lower- and middle-class Anglo-Americans with lower- and middle-class Spanish-American subjects on the WISC. The subjects ranged between 13 and 14 years. The Anglo-American subjects scored significantly higher than the Spanish-American subjects on two factors associated with verbal abilities, but not on factors associated with nonverbal abilities. Middle-class children in both groups scored significantly higher than the lower-class children on each of the WISC measures.

Several difficulties arise in any attempt to interpret results obtained in studies using verbal and nonverbal intelligence tests. Interpretation cannot be based on the assumption that verbal and nonverbal tests measure the same functions (Anastasi and Cordova, 1953). In addition, the cultural background of the subjects must be considered an important factor in performance on these tests. While bias in verbal tests has been recognized as a serious problem, Ortar (1972) has pointed out that the verbal test may provide a less biased instrument in the measurement of intelligence than the nonverbal test. Ortar (1972) maintains that the transfer of visual representations into concepts is culturally determined and dependent upon previous training. In addition, bias can more easily be eliminated in verbal tests across cultures.

In order to include a verbal term or item in a verbal test, it must have a translatable equivalent. Absence of a corresponding term insures the exclusion of the item. The nonverbal test, on the other hand, does not contain this safeguard.

Standardized tests usually measure only a narrow range of mental abilities; they usually ignore the influences of cultural training and socialization on the test performance scores and usually do not consider the interdependence of the individual's motivational and personality structure on the characteristics of his mental functioning. Therefore, the results of these tests have to be interpreted carefully. These issues are coupled with other variables impinging on Puerto Rican children which we have already discussed.

In order to overcome some of these difficulties, we need to develop tests in areas of skill mastery, relating scores derived from the performance of minority Puerto Rican children with measures of their environmental circumstances, and to develop tests theoretically fair to different cultural groups (Samuda, 1975). More examiners sensitive to the particular needs and cultural norms of these children should be trained, and agencies should be particularly careful in interpreting the data and results of these tests.

Projective testing is another procedure used in the diagnosis of children. The basic assumption underlying projective testing is that an individual's response to some stimuli is unique and projects on to the stimulus certain aspects of his own personality. Projective techniques are varied and numerous. Among those used are the Thematic Apperception Test (TAT), the Rorschach Test, and the Holtzman Inkblot Test (HIT). The TAT consists of more than 20 cards with pictures of social and other situations, for some of which the subject is asked to create a story. The child's version of the TAT, the Children's Apperception Test (CAT), consists of 10 cards with pictures of animals instead of people. In the Rorschach Test a subject is requested to describe what he sees in an inkblot on each of 10 cards. Similarly, the HIT requires the subject to describe what he sees in an inkblot on two parallel series of 45 cards.

By examining the individual's responses to projectives, an attempt is made to arrive at a "picture" of a personality. The aim of projective testing can be said to be "to study and obtain an evaluation of the total personality..." (Rabin and Haworth, 1960: 4). Thus, the goal of projective testing should not be simply to look for pathology but to attempt to obtain as complete as possible a picture of an individual's personality functioning.

While with adults it is possible to determine some relatively stable personality characteristics, in assessing a child's personality one is confronted with a major problem: children have not yet

achieved a stable personality structure; personality development is still undergoing many changes. This presents difficulties in using projective tests with children, and these factors must be considered in interpreting test results. The examiner must exercise caution in drawing conclusions. Utilizing projective tests such as Rorschach and TAT with Hispanic children is potentially invaluable in formulating a picture of a child's personality. One problem, however, occurs with the lack of norms for Hispanic children available on the Rorschach and TAT: the relatively few norms available are of non-Hispanic children's performances on these tests. Consequently, it is difficult to determine whether a response on the Rorschach, which according to the norms with Anglo children is considered pathological, is pathological also with Hispanic children.

There are, nevertheless, several studies of the variation in performance among different ethnic and socioeconomic groups. Ames and August (1966) administered the Rorschach Test to 217 black elementary-school children of low socioeconomic background between the ages of 5 and 10. This group was compared to earlier samples of white subjects from three different communities, each representing different socioeconomic and intelligence levels. Intelligence was measured on the Wechsler Intelligence Scale for Children for all white subjects, while only 10-year-old blacks were tested on a different IQ test. On most Rorschach variables, blacks scored lower and "in most instances substantially poorer than those subjects of the other three groups for nearly every scoring variable at nearly every age" (p. 299). This study has serious methodological problems which threaten the validity of the findings: (1) samples were not equivalent and comparable; (2) different IQ tests were used for whites and blacks; (3) there were possible experimenter biases. An interesting finding, however, was, that at age 5, black subjects were similar to white on the major variables, but after age 5 black subjects fell behind white subjects.

Megargee (1966) compared white and black male juvenile delinquents' performances on three projective techniques -- TAT, HIT, and Rosenzweig Picture Frustration Study. The Rosenzweig Picture Frustration Study consists of a series of cartoons in which one character is shown as frustrating another, the subject is asked to indicate what the frustrated character would reply to the character initiating the frustration. In the Megargee study subjects were matched for chronological age, mental age, and social class. Few significant differences were observed between the two groups on most major variables. On the HIT, the two groups differed on a few variables, pointing to some subtle differences between them: whites tended to give more pathognomic verbalizations and more popular responses; blacks were higher in the number of anatomy responses.

The results of the study compared with those obtained by other investigators suggest that "differences in intellectual ability rather than in basic personality structure are probably of primary importance in mediating interracial test differences" (p. 533). Megargee goes on to say (p. 534):

> Differences which are obtained between racial groups on projective tests should not be used to make inferences about differences in the basic personality structure of whites and Negroes unless the groups have been carefully matched on intelligence as well as other salient variables.

Williams *et al.* (1968) studied the Rorschach Human Movement Response (M response) of black and white emotionally disturbed children between the ages of 5 and 17. The M response is believed to reflect a high level of ego functioning, fantasy life, and capacity for empathy. M responses increase with age, and an average number of M responses are expected in late adolescence and adulthood. In this study younger black children gave more M responses than white children, but this initial trend reversed itself so that by adolescence the white group gave more M responses than the black.

Holtzman *et al.* (1968) in a large, comprehensive, six-year longitudinal study compared Mexican and Anglo children on many psychological tests including the HIT. By employing these psychological tests, Holtzman attempted to compare cognitive, perceptual, and personality development. Although the focus of this discussion is the Rorschach test and the TAT, we review Holtzman's study because it is the only major research using an inkblot test with Spanish-speaking children.

A total of about 450 children between the ages of 5 and 17 were selected. Most children were of middle-class backgrounds, but the Mexican sample included children of lower socioeconomic backgrounds. Mexican children from Mexico City and Anglo children from Austin, Texas, were selected from public and private schools. Because of difficulties in the selection of samples, preparation of psychological tests, and other problems, the Mexican children were tested three years after the Anglo children.

The initial findings, although preliminary and inconclusive, point to significant differences between the two groups, particularly on the HIT, which was scored for over 20 variables. The authors state (p. 144):

> When taken together, these variables strongly suggest that the Mexican child is more passive in coping with tasks set before him in the testing situation, more likely to respond in terms of his immediate sensory experiences and less likely to be highly differentiated in perceptual and cognitive structure than is the American child of the same age and social class.

Although findings from several studies with Hispanic adults were

not generalizable and only suggestive of similar trends in children, they point to cross-cultural differences in responses on projective tests. Kaplan *et al.* (1956), in one of the earliest studies involving Hispanics, compared the Rorschach tests of military veterans from four different groups in the Southwest: Suni and Navaho Indians, Mormons, and Spanish-Americans. The sample consisted of six subjects from each group. Two judges, both experienced with the Rorschach, were presented with 24 Rorschach tests and were asked to sort them without knowledge of the subjects' cultural-group membership into four groups. The first judge, who had little or no familiarity with the cultural groups, was unable to sort the tests according to cultural-group membership. She was, however, able to classify according to other variables such as psychological functioning. According to the authors this failure to categorize the Rorschach tests indicates that whatever cross-cultural differences there are, they are not as major and clear-cut as anticipated. A second judge, who had some familiarity with Navaho and other Indian cultures and had extensive experience with Rorschach tests of Hopi children, was able to sort most of the tests into the correct cultural group. The authors are cautious in drawing conclusions, in view of the lack of other studies. However, they do suggest that cross-cultural differences on the Rorschach test may be quite subtle and not clear-cut. Cultural sensitivity seems to be an asset in detecting subtle differences between groups. The authors, however, do not consider the possibility that the failure to obtain more striking differences between the groups may have been a function of sample biases, i.e., the subjects were all highly acculturated to American society, reducing the cross-cultural differences.

One finding regarding the Spanish-Americans' performances during the testing situation has particular significance for us. Kaplan *et al.* note that (p. 179):

> Many of the Spanish-American subjects appeared to be more superficially involved and were not attempting to give more than a minimum number of responses to the tests. These particular attitudes may very well reflect personality characteristics. On the other hand, they may represent stereotyped attitudes in the culture.

From the authors' description of the subjects it seems that, of the four groups, the Spanish-Americans were the most recent arrivals in that area. One wonders if this finding reflects an actual cultural characteristic or possible anxieties resulting from differential social status in the community.

It is clear that projective tests must be utilized with care, particularly with minority children. Further attempts to develop norms on Hispanic children's projective-test performance and their utilization for assessment should be carried out. The effects of

bilingualism as well as the impact of typical beliefs and values of the Hispanic culture have to be considered in the creation of these norms.

For example, can beliefs in *espiritismo* be evidenced on Rorschach responses? Can differences among Anglos, blacks, and Puerto Rican children in the quantity and quality of responses with reference to spirits be shown? Is the crucial role of the family within the Hispanic culture proven on TAT, HIT, and Rorschach responses? If so, how is this interpreted? Does it indicate that the child has conflict about dependency?

We have pointed to the clinician's need to be aware of a child's sociocultural environment as well as of his individual coping styles under stress in order to make a better assessment of the child's mental status. At the same time, it is our contention that this multicultural perspective should be indispensable to all clinicians involved in the interviewing, administering, and designing of all mental health data-collection devices.

One such device currently in use is the New York State Department of Mental Hygiene MS-5 admission form, an intake form required to be completed for any individual receiving a face-to-face interview during which his problems are discussed. The MS-5 form provides basic background characteristics of patients such as age, sex, ethnic group, marital status, household composition, and education, as well as information on source of referral, prior service, and problem appraisal. It was developed to cover all facilities operated, licensed and/or funded by the Department of Mental Hygiene. It is this intake form which provides the basis for the only available statewide data on the mental health of Puerto Rican children.

When interpreting these data, however, we must consider methodological problems associated with data collection. The major difficulty confronting the analyst is the widespread lack of reporting of the admission interview form. The Department of Mental Hygiene estimated that for New York City during the fiscal year 1976-77, only 52 percent of all admission forms were sent to the state capital. The rate of reporting was also found to vary by borough, ranging from a high of 68 percent reporting in Queens to a low of 37 percent in Manhattan. This clearly is a major source of potential bias which could have a significant effect on the reported data and, thus, on the derived comparative rates of facility utilization. Comments on the adequacy of the MS-5 admission form as a data source are presented in Chapter 5.

The statewide data do allow us to present information on admission rates, symptomatology, diagnosis, severity of condition, prior treatment, and source of referral. The analysis below excludes admissions of the "other" racial/ethnic category (2.3 percent of all admissions for those under 13 years) and those for

whom racial/ethnic group is not stated (23.5 percent of all admissions for those under 13 years). The instructions for completing the form specify that a person is considered Puerto Rican if he or a parent was born in Puerto Rico, thereby potentially including first- and second-generation Puerto Ricans. Racial/ethnic identification is determined on the basis of observation or by the client's statement. As noted previously, a number of studies using various data-gathering techniques indicate that the New York adult Puerto Rican population demonstrates higher rates of admission to inpatient and outpatient mental health facilities than non-Hispanic adults. However, no information has been available regarding rates for Puerto Rican children.

The rates of admission interviews per 100,000 persons to all local facilities in New York City for those under 13 years of age for the fiscal year 1976-77 were: for 4,196 Puerto Ricans, 1,516.3; for 5,955 blacks, 1,157.5; and for 6,094 whites, 857.1 (New York State Department of Mental Hygiene, Special Tabulation, Table 1270). These admission rates should not be equated with the existence of mental illness or the rates of admission of children presently requiring psychiatric treatment. They do not reflect utilization rates in the larger community. They represent only the actual number of children who underwent an intake procedure. The rates of reported admission interviews for Puerto Rican and black children were considerably higher than those for non-Hispanic white children, with the highest rates found among the Puerto Ricans. The rates of admission for blacks were 23 percent lower than those for Puerto Ricans, while the rates for whites were more than 40 percent lower than for Puerto Ricans.

While a number of children may be undergoing these interviews unnecessarily, we suggest that, especially in the case of minority children, these rates underrepresent the total number of children who could benefit from such services and who are presently either not referred or referred to other nonmental health facilities. This view is supported by the work of Rutter and Cox (1977) whose epidemiological studies indicate that during the course of one year from 5 to 15 percent of all children suffer from emotional or conduct disorders of sufficient severity to handicap them in their everyday life. Thus, if all children were being reached we would expect even higher rates of intake admission than are currently being reported. We base this expectation on the number of intake interviews carried out during the year for each group as shown above. Allowing for the high rate of nonreporting previously cited, we estimate that less than 5 percent of all New York City children undergo intake interviews during the course of one year.

Children are usually brought to a mental health facility because of the manifestation of some behavior correctly or incorrectly interpreted as a symptom of psychiatric disorder. Before analyzing

the data on symptom presentation, we offer some general comments on various dimensions of symptomatology.

Brief episodes of fears, tantrums, and nightmares are quite common in children. Thus, large numbers of normal children manifest behaviors of a type which, in a clinical setting, can be judged pathological, but which rarely indicate a true psychiatric disorder. For these behaviors to be considered symptomatic of true psychopathology, other variables have to be considered, such as the frequency and/or severity of presentation and the quantitative difference from the normal in terms of severity, persistence, and social impairment (Rutter, 1977).

The information needed to make an accurate evaluation of the presence or absence of a psychiatric disorder when evaluating symptoms was grouped under six headings by Shepard *et al.* (1971): (1) frequency or intensity of problem; (2) abnormality of behavior in relation to age and sex norms; (3) number of abnormal behaviors; (4) duration and type of disturbance; (5) attitudes toward problem; and (6) circumstances in which behavior occurs. It is impossible to ascertain exactly to what extent intake interviewers perceive and evaluate these factors, but certain patterns in the data that are of significance do emerge.

Table 7 lists the percentage of children under 13 years of age presenting specific symptoms by the 14 most commonly indicated psychiatric problems. All three groups (white, black, and Puerto Rican) had notable proportions of children reporting problems with social performance in school, social relations with family and with others, inadequate intellectual development, anger and belligerence, agitation, anxiety, depression, and physical problems.

Although the patterns are more complex and more difficult to interpret, there are differences among the groups: In comparison with white children, Puerto Rican children demonstrated a higher frequency in the categories of sleep and articulation problems, physical problems, inadequate intellectual development, problems with others, social performance in school, anxiety and fear, anger and belligerence, agitation and hyperactivity, and antisocial attitudes.

The relative frequencies of psychiatric problems for black children demonstrate no clear pattern in relation to those of Puerto Rican and white children. However, black children do have the highest percentage reporting any one problem -- social performance in school -- while also reporting the highest frequencies for problems with social relations among friends and others and the symptom of anger/belligerence.

The considerably higher percentages of both Puerto Rican and black children categorized as having problems with social performance in school and inadequate intellectual development seem consistent with the particular difficulties these two minorities

TABLE 7
Symptoms Presented by Persons Under 13 Years of Age Undergoing Admission Interviews at all Local Facilities, by Racial/Ethnic Group, of 14 Most Common Problems (New York City, Fiscal Year 1976-77)

Symptoms	RACIAL/ETHNIC GROUP		
	Puerto Rican % [a]	Black % [a]	White % [a]
Sleep problems	10	6	6
Speech articulation problems	9	8	6
Other physical problems	15	13	11
Inadequate intellectual development	22	20	14
Social relations with family	22	24	23
Social relations with others	21	25	17
Social performance in school	44	48	34
Anxiety, fears, phobias	17	12	14
Depressed/inferiority	11	15	11
Anger/belligerence	16	22	14
Agitation/hyperactivity	17	17	10
Antisocial attitudes	5	7	3
Social withdrawal	7	7	7
Dependency	7	6	7
Unreported problems	26	22	37
Total number of persons in each group	4196	5955	6094

Source: *New York State Department of Mental Hygiene: Table #1270.*

[a] *Percentages have been rounded for clarity of presentation. Percentages do not add up to 100 because more than one symptom can be reported for an individual.*

deal with in school. They are required to cope in the classroom with language and cultural differences as well as with issues related to their socioeconomic status. At the same time, they are frequently subjected to inadequate testing and screening tools. A symptom more difficult to explain is agitation/hyperactivity, also overrepresented in both black and Puerto Rican children. This can be due to higher rates of lead intoxication, minimal brain damage, and undernutrition in poor, urban minority children or to culturally adaptive ways of expressing feelings (by motor activity rather than verbally). Or, this type of symptom may be caused in part by less tolerance for these kinds of behaviors by referring agents or intake workers, possibly by the cultural insensitivity of persons in intake and referral positions.

Slightly higher proportions of Puerto Rican than black or white children are reported to have sleep difficulties. While this problem is cited relatively infrequently, even among Puerto Rican children, their higher presentation of this problem is consistent with previous research indicating that Puerto Rican adults also have higher frequencies of sleep problems than either black or white adults (Abad and Boyce, 1979).

The percentage of Puerto Rican children reporting "other physical problems" (though higher than that of black or white children) seems particularly low in view of our hypothesis that Puerto Rican children manifest stress through somatic complaints, as was reported for Puerto Rican adults (Abad and Boyce, 1979). This may be the case if children's somatic complaints are not seen by parents or formal referral agents as the reason for referral to mental health facilities but result, instead, in referral to pediatric clinics.

A considerable percentage of children of each racial/ethnic group has unreported problems: white, 37 percent; Puerto Rican, 26 percent; and black, 22 percent. The higher percentages not reporting are probably due to the fact that the problem-appraisal question is considered an optional one by the New York State Department of Mental Hygiene (optional in the sense that it need not be asked by the intake interviewer). However, such an interpretation still leaves unanswered the question as to the source of the differential percentages of unreported problems by ethnic group.

In the past, clinical findings have led some investigators to conclude that many childhood psychiatric disorders are no more than temporary exaggerations of widely distributed reaction patterns (Lapouse and Monk, 1958; Shepard *et al.*, 1966). While this may be the case for the majority of children who experience such episodes, it is not the case for those whose functioning is impaired by such disturbances. At the same time, there is the strong tendency for disorders to persist during at least several years

of childhood and adolescence (Graham and Rutter, 1973; Rutter, 1976), and thus they are not "episodic problems" which will soon clear up if untreated, leaving no residue.

To add to the complexity of the above, Kanner (1957) described how symptoms may serve several different functions: as an admission ticket to the clinic; as an external signal from the child that something is wrong; as a safety-valve response to an intolerable situation; as a means of solving problems and coping with anxiety; as a nuisance to the referral agent. Based upon these factors, diagnostic evaluation must include also an appraisal of what the symptoms mean in each child referred, not only to the clinician but also to the child, the child's family, and the referral agent.

Referral agents who bring or refer children to mental health clinics are frequently teachers and parents. When parents are the referral agents, two issues seem important: distinct symptom-reporting patterns, and symptoms manifest at evaluation in mental health clinics. We suggest that parents' symptom patterns may be reflected in the evaluation of their children and, thus, in their reasons for bringing them to the clinics.

Puerto Rican adults in New York City were observed reporting significantly greater numbers of psychiatric symptoms than their class counterparts in other ethnic groups (Dohrenwend, 1969). If they report greater numbers of symptoms in their children, these children may be judged more severely ill than is actually the case, since the number of symptoms is of considerable importance in psychiatric diagnoses. In a study of Puerto Rican adult patients, Abad and Boyce (1979) stated that, in comparison to black and non-Hispanic white patients, Puerto Ricans demonstrated a higher frequency of sleeping and eating problems, physical problems and somatic concerns, suicidal thoughts and gestures, disturbances in parent-child relationships, hallucinations, seizures, assaultive acts, antisocial behavior, inadequate intellectual development, and disorientation. Some of these symptoms may also be reported more frequently in Puerto Rican children for the same reasons.

A study comparing Puerto Rican working-class children with non-Puerto Rican middle-class children (Thomas *et al.*, 1974) describes 53 percent of Puerto Rican parents as reporting excessive motor activity by their children compared to 12 percent non-Puerto Rican parents. Offered as a possible explanation is the small apartments of the Puerto Ricans in areas with few recreational facilities in which children were "cooped up" by parents fearful of allowing them outside alone. In many cases, the children's need to play and release energy seemed overwhelming in the close living quarters. This study reported also a high incidence of sleep difficulties particularly noticeable among Puerto Rican children in the 5-to-9 age group which might be related to childrearing

patterns of Puerto Rican families which allow considerable flexibility in the sleeping hours of preschool children but not in school-age children.

In addition to the importance of assessing the frequency and severity of symptoms and the cultural sensitivity of the reporting agent, we feel socioeconomic status is important in behavioral patterns, since we assume that the majority of Puerto Rican children come from low socioeconomic status families and since children of different social classes have been observed to manifest personality and behavior patterns which are distinctive (Lustman, 1970; Kohn, 1959; Zeigler, 1971). For example, it has been noted that children from low socioeconomic backgrounds do not usually manifest observable neurotic symptoms in spite of exposure to deep trauma (Meers, 1970; Langner, 1974). We recommend that during the initial intake interview all of these dimensions of symptomatology should be taken into consideration.

Diagnostic classification seeks to pick out the key features of a psychiatric disorder and then group and label the disorder according to the factors it has in common with other similar conditions. The positive aspects of this classification are that it narrows down the field in terms of potential causes, treatment, and prognosis and provides a ready set of items for communication with other professionals (Cox and Rutter, 1977).

On the other hand, the inadequacies of the present psychiatric classification system call for the development of better systems for classifying patients. This has resulted in a trend toward examining behavior dimensions and behavioral demands in particular role settings, with some movement away from checklists of symptoms. Langner *et al.* (1974) suggest that the existing diagnostic categories evolved in a piecemeal fashion, partially out of theory and partially out of observation. Among the results of this process is the fact that much diagnostic terminology consists of labels which serve to guide administrative personnel on where a patient must go, how long he may be ill and, at times, what financial resources are available for treatment. The labeling process has been criticized particularly in the diagnosis of children because initial labeling has the potential to channel and limit many aspects of a child's later life.

Langner *et al.* also cite research which indicates other problems inherent in the diagnostic process. When patients with the same diagnosis differed considerably in behavior, the general reliability of diagnosis was found to be low. While clinical evaluations of one person over time demonstrated stability, there was a wide variation between the judgments of two observers of the same person. Even though the clinicians were experienced and were diagnosing the same patient on the same trait, experience and professional training were found not to relate generally to judgmental accuracy,

and increased information did not increase the accuracy of diagnostic judgments, just the confidence of the clinicians.

Eisenberg (1957) questioned the accuracy of prognoses provided by the present diagnostic system. In his research, between one quarter and one third of patients diagnosed as psychotic or schizophrenic as children attained adequate adult adjustment with or without treatment; another 40 percent attained marginal adjustment; and a large portion of the remainder developed clear organic symptomatology.

Rutter and Cox (1977) cite a number of important elements in diagnostic evaluation: First, the greater the number of symptoms in a child, the more likely he is to have a clinically significant psychiatric disorder. Second, the more severe and more frequent each symptom, the greater the likelihood of disorder. Third, some behaviors are better indices of disorder than others. Fourth, the age- and sex-appropriateness of the behavior need to be taken into account (p. 275).

The data for New York City do not allow us to arrive at any conclusions regarding the number or severity of the symptoms experienced by children for each racial/ethnic group. It is possible, however, to examine one item "general severity of condition" which is recorded at the time of the intake interview and which is described as "the clinician's judgment of overall severity of condition whether due to psychopathology or social factors, or a combination of these" (New York State Department of Mental Hygiene, Instructions for Completing Forms MS-5 and MS-5A). As shown in Table 8, a slightly higher percentage of Puerto Rican children than black or white children are characterized as not ill or only slightly ill. A higher percentage of black children than Puerto Rican or white children are reported as either moderately or severely ill, with the Puerto Rican percentage closer to the white than to the black. It is striking that a considerably larger percentage of white children had unreported severity of condition than did either Puerto Rican or black children.

It was somewhat surprising to find a higher percentage of Puerto Rican children characterized as not ill or only slightly ill in view of the pattern of symptomatology and their hypothesized greater exposure to social stressors. One explanation for this may be that only one portion of the inaccurately referred Puerto Rican children is picked up at this point. It is interesting also that the percentage of Puerto Rican children reported moderately or severely ill is closer to the percentage of white children than of black children.

In a study (Von Brauchitsch, 1975) comparing 80 upper-class children, who were predominantly white, lived in the suburbs, and came from intact families, with 82 lower-class predominantly black children, living in ghettoes in broken families, a predominance of intellectual dysfunctions, character disorders, and suicide was

TABLE 8
Severity of Condition of Persons Under 13 Years of Age by Racial/Ethnic Group Undergoing Admission Interview at Local Facilities (New York City, Fiscal Year 1976-77)

Condition	Racial/Ethnic Group					
	Puerto Rican		Black		White	
	n	%[a]	n	%[a]	n	%[a]
Not ill/slightly ill	373	9	465	8	386	6
Mild	761	18	1103	18	955	16
Moderate	1215	29 ↘35	1993	33 ↘40	1618	27 ↘33
Severe	257	6 ↙	395	7 ↙	371	6 ↙
Unreported severity	1590	38	1999	34	2764	45
Total number	4196		5955		6094	

Source: *New York State Department of Mental Hygiene: Table #1270.*

[a] *Percentages have been rounded for clarity of presentation.*

found in the lower-class children, while among the upper-class children neuroses and autistic psychoses were most frequent.

Similarly, major differences by social class were observed in the manifestation of behavioral disorders and certain other psychiatric conditions. In a study examining the relationship of childhood psychosis and social class, McDermott *et al.* (1967) found no significant difference in the occurrence of diagnosed psychosis among the five social-class groups. However, finding that the expression of the psychotic illness was correlated with social class, they postulated that this difference might be due to experiential differences in the children.

Ritvo *et al.* (1971), in reviewing social-class factors and their relationship to autism, could find no significant relationship between the socioeconomic status of parents and the diagnosis of autism in their children. Investigating the relationship between socioeconomic status, parenting styles, and symptomatology in hyperkinetic boys with minimal brain dysfunction, Paternite *et al.* (1976) found that primary symptoms did not vary as a function of social status. However, status-related differences did emerge for secondary symptoms (such as aggressive behavior).

Through an examination of prior utilization of mental health facilities we may find a general indication of the relative severity and duration of mental health problems of children undergoing admission interviews. Table 9 presents information on the prior use of psychiatric or retardation facilities for those under 13 years of age. A large percentage of children from each group reported no prior psychiatric treatment. However, prior noninpatient treatment was reported for considerably higher percentages of Puerto Rican children than of white or black children.

TABLE 9
Prior Use of Psychiatric or Retardation Facility by Persons Under 13 Years of Age, by Racial/Ethnic Group, Reported on Admission Interview at Local Facilities (New York City, Fiscal Year 1976-77)

Prior Use of Mental Health Facility	Racial/Ethnic Group					
	White		Black		Puerto Rican	
	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]
Inpatient	225	4	271	4	179	4
Noninpatient	2000	33	2049	34	1712	41
None	2884	47	2727	46	1645	40
Unreported	1248	20	1299	22	852	20

Source: *New York State Department of Mental Hygiene: Table #1270.*

[a] *Category values do not add up to 100 percent for either the population or percentage totals, since an individual may report both prior inpatient and noninpatient facility use at the time of the admission interview.*

[b] *Percentages have been rounded for clarity of presentation.*

The percentages who had undergone prior inpatient treatment were similar in each group. It may be the case that Puerto Rican children's symptoms were of longer duration, but not of sufficient severity to merit differential inpatient treatment. Nevertheless, it is our suspicion that this may be more reflective of differential referral and facility-utilization patterns. It may be that Puerto

Ricans have to "shop around" more for an appropriate bilingual and bicultural outpatient clinic. On the other hand, they may receive less appropriate services and leave the clinics prematurely. As a consequence, they may have to return since their problems were not resolved initially.

Table 10 presents the psychiatric diagnoses by racial/ethnic group for children under 13 years of age. Based upon the general rates of admission, the tabulation of psychiatric diagnoses by racial/ethnic group indicates that the reported rates for specific clinical diagnoses are higher for Puerto Rican children than for non-Hispanic white children in 14 of the 16 diagnostic categories. The frequency of diagnosis in the categories in which the white rate exceeds the Puerto Rican rate -- other organic brain syndrome psychosis and maladjustment -- is minimal, equaling 1 percent or less of all diagnostic labels for both groups.

Of greater interest are the five most common psychiatric categories which account for approximately 80 percent of all admission interviews for each racial/ethnic group: retarded, psychophysiologic, transient situational, behavior-disordered, and undiagnosed categories. Slightly larger percentages of interviewed Puerto Rican children were diagnosed as retarded, transient situational, and behavior-disordered than of white children, while the percentage diagnosed as psychophysiologic is similar for all groups. A larger percentage of white than of either black or Puerto Rican children are left clinically undiagnosed after the admission interview, while no diagnoses were reported for 9 percent of all Puerto Rican, 10 percent of all black children, and 6 percent of white children. The diagnostic groups presented in Table 10 represent the first and crudest diagnostic classification of the child since they are based upon impressions gathered in an initial interview with the child or the child's guardian by intake staff with widely different training, experience, and cultural sensitivity. Clearly, the appraisals indicated in the citywide data are not of the quality we recommend, i.e., focusing on many dimensions of the child's world such as his social context, cultural background, developmental age, and manner of referral.

It appears, however, that the difficulty in arriving at an accurate diagnostic appraisal during an initial interview is reflected in Table 10 by the high percentage of children left undiagnosed, which is probably a professional response to a clinically complex situation. In those cases in which the clinician is unsure, the diagnosis is deferred until a later date. If this is what has occurred, it is surprising that Puerto Rican children are the least likely of the three groups to be undiagnosed. One would imagine that the added complexity of evaluating a child from a different cultural background by a staff who are, by and large, unable to evaluate such factors properly would result in higher and not lower

TABLE 10
Psychiatric Diagnosis by Racial/Ethnic Group of Persons Under 13 Years of Age Undergoing Admission Interviews at Local Facilities (New York City, Fiscal Year 1976-77)

Diagnosis	RACIAL/ETHNIC GROUP								
	Puerto Rican			Black			White		
	n	%[a]	rate[b]	n	%[a]	rate[b]	n	%[a]	rate[b]
Retarded	406	10	145	371	6	72	385	6	54
Alcohol-related	8	-	3	13	-	2	18	-	2
Drug-related	3	-	2	7	-	1	5	-	1
Other O.B.S. psychoses[c]	2	-	1	7	-	1	9	-	1
Other O.B.S. non-psychoses	77	2	28	94	2	18	113	2	16
Schizophrenia	85		30	146	2	28	109	2	15
Affective	1	-	-	4	-	1	5	-	1
Other psychoses	4	-	1	5	-	1	4	-	-
Neuroses	74	2	27	110	2	21	158	3	22
Personality	40	1	14	109	2	21	95	2	13
Psychophysiologic	159	4	57	209	3	41	295	5	41
Transient situational	870	21	312	1170	20	227	1074	18	151
Behavior disorder	568	13	204	808	14	157	662	11	93
Maladjustment	13	-	5	13	-	2	53	1	7
No mental disorder	87	2	31	72	1	14	94	1	13
Unreported diagnosis	386	9	138	623	10	121	378	6	53
Undiagnosed	1413	34	507	2194	37	426	2637	43	371
Total number and rate[b]	4196		1506	5955		1157	6094		857

Source: New York State Department of Mental Hygiene: Table #1270.
[a] Percentages have been rounded for clarity of presentation.
[b] Per [illegible] population.
[c] Organic brain syndrome.
- Less than 1 percent or a rate of less than 1.

percentages of diagnostic deferrals. On the one hand, the inability to perceive and evaluate culturally specific factors may present the interviewer with what appear to be clear diagnostic labels; on the other hand, the reluctance to label children psychiatrically may be stronger when a non-minority child is being evaluated.

The higher percentage of Puerto Rican children diagnosed as retarded is not surprising, given our previous finding in Table 4 that handicapped Puerto Rican children are overrepresented in the mentally handicapped group. However, it was also noted in Table 4 that mentally handicapped minority children were less likely to be evaluated as severely retarded than were white children. This raises the possibility that many minority children with average intelligence are not being assessed accurately and are being misassigned, and also that many low-status children with learning disabilities and other forms of brain dysfunctions may be misallocated into this category. That this diagnosis is apparently more preponderant in the lower classes is consistent with Von Brauchitsch's findings that the only statistically significant difference between classes pertained to the frequency of mental retardation (1976).

The high rates across ethnic classes of transient situational disorders are not unusual. Many reporting clinicians use this diagnosis loosely because of difficulties in making a psychiatric diagnosis on intake and fear of putting a psychiatric diagnosis on a child's record permanently.

Research based upon national data on psychiatric treatment indicates that young boys have higher rates of treated mental illness than young girls, while girls by late adolescence have as high if not higher rates than their male counterparts (Gove and Herb, 1974). Although most studies on sex differences in psychopathology have been done with treated rather than untreated subjects, the few studies with untreated subjects support the findings of those with treated subjects, namely greater male prevalence in all diagnostic categories.

Sex differences in child psychopathology are attributed to the fact that young boys experience more stress than young girls which results in higher rates of mental health problems in male children. While this area is still under investigation and highly controversial, several sources of this stress were suggested by Gove *et al.* (1974) who state that physical and intellectual development of young males is slower than that of girls. Other researchers found girls developmentally ahead of boys as early as 6 months of age (Kagan and Lewis, 1965), and male children during their first year more vulnerable to stress and trauma (Bentzen, 1963). Language acquisition and articulation are major areas in which girls were described as developing considerably faster than boys. Additional areas of reported divergence are perception, cognition, and

emotional development. The suggestion is that parents are not aware of these developmental differences and expect boys to perform as well as girls. In addition, research indicates that there is little or no recognition of the developmental age-differential between the sexes in the public school system (Bentzen, 1963). Therefore, the belief is that boys encounter greater differences in their abilities and in the expectations of others than do girls, resulting in greater stress. For the Puerto Rican male child, this potential developmental delay in linguistic abilities may be amplified by the element of bilingualism, and his performance level may be even further behind what is generally expected.

Another factor cited as a potential problem for boys is their aggressiveness. Evidence suggests that boys have a lower frustration threshold, are more impulsive and aggressive than girls, and are more prone to conflicts with parents and teachers, which would increase the amount of stress they experience.

A third well-established factor creating difficulties for young boys is the character of their sex role. Research consistently demonstrates that sex-role expectations are more rigid for boys than for girls. At the same time as the role for the appropriate behavior is narrower, a boy's immersion in a predominantly female world at home and at school may make it more difficult for him to acquire and maintain appropriate sex-role behavior.

Table 11 presents distribution and rates of psychiatric diagnoses by sex and racial/ethnic group. For each group the male rates of admission are about twice as high as the corresponding female rates. The highest rates are displayed by Puerto Rican children followed by those of black and then white children. As was the case in Table 10, the most common diagnostic categories for both males and females are behavior-disordered, retarded, psychophysiologic, transient situational, and undiagnosed. At the same time, the percentage of admission interviews in which no diagnosis was reported remains considerable for each of the six groups.

Between 11 and 13 percent of all children undergoing an admission interview in each racial/ethnic group were diagnosed as behavior-disordered. The percentage of interviewed male children so diagnosed exceeds the percentage of female children in each racial/ethnic group. This is consistent with the literature in this area.

Table 11 indicates that larger percentages of all Puerto Rican children than black and white children were diagnosed as retarded and a slightly larger percentage of female than male children were diagnosed as retarded for each racial/ethnic group. We have already mentioned several factors which may account for the overrepresentation of Puerto Rican children in this category. However, it is unclear at this point why larger percentages of

females in each group are being diagnosed as retarded.

Between 4 and 5 percent of all children in each racial/ethnic group undergoing an admission interview were diagnosed as psychophysiologic. Table 11 shows that equal percentages of interviewed male and female children are found within this diagnostic category.

Approximately 20 percent of all children in each racial/ethnic group undergoing an admission interview were diagnosed as transient situational, with a slightly larger percentage of interviewed female children than male children within each group so diagnosed. In view of our previous discussion of this diagnostic category and the slight differences reported here, it is hard to arrive at any sex-related conclusions from these data.

Thirty-four percent of all interviewed Puerto Rican children, 37 percent of all black children, and 43 percent of all white children were undiagnosed following the initial interview. Among black and white but not Puerto Rican children, a slightly higher percentage of males than females had their diagnosis deferred. The deferral of diagnosis may be a proper response to diagnostic uncertainty but it is not clear why this uncertainty would not be perceived as readily in dealing with a culturally diverse group. This presents particular problems for our thesis since it is our impression that many Puerto Rican children undergoing stressful situations could be identified in this category.

In regard to behavior disorders, there are similar difficulties in diagnosis. Children with a variety of problems -- minimal brain dysfunctions, severe emotional disturbances, and even mild stressful situations -- may be included in this category or excluded from it at random. In addition, the nature of the referral process must be considered. Teachers might refer children who express by motor response or other behavioral modes their difficulties in understanding or following instructions. Puerto Rican parents, who have been reported to perceive behavioral and discipline problems in their children to a greater extent than non-Puerto Rican parents (Thomas *et al.*, 1974), might refer their children for these problems. Thus, inaccurately expressed reasons for referral could be mirrored in the initial diagnosis.

The relatively low number of Puerto Rican childrer diagnosed as psychophysiologic is somewhat surprising in view of our hypothesis that many of these children would be brought within this category culturally, but we find the same patterns in the other groups. This could be explained partially by the fact that such children are referred mostly to pediatric clinics and are not being seen by a team of pediatricians and mental health professionals.

We have already suggested in the discussion of symptomatology and diagnosis the means through which the referral process may reflect the attitudes and perspectives of the referring agent and

TABLE 11
Psychiatric Diagnosis by Sex and Racial/Ethnic Group of Persons Under 13 Years of Age Undergoing Admission Interviews at Local Facilities (New York City, Fiscal Year 1976-77)

Diagnosis	Puerto Rican					
	Male			Female		
	n	%[a]	rate[b]	n	%[c]	rate[b]
Retarded	244	8	172	162	12	118
Alcohol related	6	-	4	2	-	1
Drug related	2	-	1	1	-	1
Other O.B.S. psychoses[c]	2	-	1	0	-	-
Other O.B.S. non-psychoses	55	2	39	22	2	16
Schizophrenia	57	2	40	28	2	20
Affective	0	-	-	1	-	1
Other psychoses	1	-	1	3	-	2
Neuroses	43	1	30	31	2	23
Personality	31	1	22	9	1	7
Psychophysiologic	113	4	79	46	3	34
Transient situational	587	20	413	283	21	207
Behavior disorder	423	15	298	145	11	106
Maladjustment	9	-	6	4	-	3
No mental disorder	48	2	34	39	3	29
Undiagnosed	974	34	686	439	33	322
Unreported diagnosis	274	9	193	112	8	82
Total	2869		2019	1327		972

Source: *New York State Department of Mental Hygiene: Table #1270.*
[a] *Percentages have been rounded for clarity of presentation.*
[b] *Per 100,000 population.*
[c] *Organic brain syndrome.*
\- *Less than 1 percent or a rate of less than 1.*

Diagnosis	Black					
	Male			Female		
	n	%[a]	rate[b]	n	%[a]	rate[b]
Retarded	224	5	85	147	8	58
Alcohol related	8	-	3	5	-	2
Drug related	5	-	2	2	-	1
Other O.B.S. psychoses[c]	6	-	2	1	-	-
Other O.B.S. non-psychoses	73	2	28	21	1	8
Schizophrenia	90	2	34	56	3	22
Affective	3	-	1	1	-	-
Other psychoses	2	-	1	3	-	1
Neuroses	60	1	23	50	3	20
Personality	71	2	27	38	2	15
Psychophysiologic	143	3	54	66	3	26
Transient situational	747	18	285	423	22	168
Behavior disorder	593	14	226	215	11	85
Maladjustment	5	-	2	8	-	3
No mental disorder	33	1	13	39	2	15
Undiagnosed	1535	38	585	659	35	261
Unreported diagnosis	453	11	173	170	9	67
Total	4051		1553	1904		761

	White					
Retarded	231	6	64	154	7	44
Alcohol related	16	-	4	2	-	1
Drug related	4	-	1	1	-	-
Other O.B.S. psychoses[c]	9	-	2	0	-	-
Other O.B.S. non-psychoses	77	2	21	36	2	10
Schizophrenia	76	2	21	33	2	10
Affective	1	-	-	4	-	1
Other psychoses	0	-	-	4	-	1
Neuroses	85	2	23	73	4	21
Personality	62	1	17	33	2	9
Psychophysiologic	189	5	52	106	5	30
Transient situational	592	17	191	382	19	110
Behavior disorder	489	12	135	173	8	50
Maladjustment	27	1	7	26	1	7
No mental disorder	51	1	14	43	2	12
Undiagnosed	1783	44	492	854	42	245
Unreported diagnosis	259	6	71	119	6	34
Total	4051		118	2043		586

may therefore differentially affect social classes and ethnic groups. In the Von Brauchitsch study (1975) the reason for referral to psychiatric treatment was found to have little direct correspondence to the ultimate psychiatric diagnosis, but it did appear to reflect the particular areas of concern of both socioeconomic groups. School problems and scholastic achievement were of much greater concern to upper-class parents, while more clearly defined psychiatric symptoms (anxiety, nervousness, withdrawal, etc.) led more frequently to psychiatric referral in the lower-class group.

Table 12 presents sources of referral for those under 13 years of age to all local New York City mental health facilities. It presents a pattern consistent with the generally observed relationships between social class and referral to mental health facilities (Von Brauchitsch, 1975). Social agencies and schools serve as the primary source of referral for all children, while this tendency is not as great for white children as for the others. Also the child's family serves as the source of referral for larger percentages of white children than for Puerto Rican and black children. Private physicians and psychiatrists serve as sources of referral for only small percentages of children from each racial/ethnic group. Not surprisingly, more white children are referred in this manner than black or Puerto Rican children.

We have presented in this chapter an initial mental health profile of Puerto Rican children compared to other New York City children, based upon data collected by all city mental health facilities during the intake interview. We have, at the same time, presented both conceptual and methodological issues relevant to an accurate psychiatric evaluation of Puerto Rican children and attempted to assess the extent to which these issues are or are not addressed in the current data-gathering procedures. To the best of our knowledge the admission statistics collected from the New York State Department of Mental Hygiene are the only available citywide data base concerned with mental health in children and which allow ethnic comparisons. The data allow us to present comparisons by ethnicity for admission interview rates, symptomatology, diagnosis, prior treatment, severity of condition, and source of referral.

The rates of reported admission interviews of Puerto Rican and black children were considerably higher than those of non-Hispanic white children, with the highest rates among Puerto Rican children. All three groups of children (white, black and Puerto Rican) had notable percentages reporting problems with social performance in school, social relations with family and with others, inadequate intellectual development, anger/belligerence, agitation, anxiety, depression, and other physical problems. There were also differences among the groups in regard to these problems. Compared to white children, Puerto Rican children

TABLE 12
Source of Referral to Local Facilities of Persons Under 13 Years of Age by Racial/Ethnic Group (New York City, Fiscal Year 1976-77)

Source of Referral	Racial/Ethnic Group					
	White		Black		Puerto Rican	
	n	%[a]	n	%[a]	n	%[a]
Self/family	1927	32	1287	22	918	22
Private physician/ psychiatrist	303	5	113	2	56	1
Facilities/agencies	3573	58	4315	72	3060	73
Unreported	291	5	240	4	162	4
Total number	6094		5955		4196	

Source: *New York State Department of Mental Hygiene: Table #1270.*
[a] *Percentages have been rounded for clarity of presentation.*

demonstrated a higher frequency of symptom presentation in the categories of sleep and articulation problems, physical problems, inadequate intellectual development, problems with others, social performance in school, anxiety/fear, anger/belligerence, agitation/hyperactivity, and antisocial attitudes.

At the same time, in response to the severity-of-condition item on the intake form, a slightly higher percentage of Puerto Rican than black and white children was characterized as not ill or only slightly ill. Furthermore, a higher percentage of black than Puerto Rican or white children was reported as either moderately or severely ill. Also, regarding severity of condition, a considerably larger percentage of white than either Puerto Rican or black children was left unreported.

In regard to specific diagnosis arrived at during the initial interview, we found that slightly larger percentages of interviewed Puerto Rican children were diagnosed as retarded, transient situational, and behavior disordered than interviewed white children, while the percentage diagnosed as psychophysiologic was similar for all groups. A larger percentage of white than either black or Puerto Rican children was left clinically undiagnosed after the admission interview.

In investigating how children arrive at mental health facilities, we found that the family served as the source of referral for larger percentages of white than Puerto Rican and black children, while private physicians and psychiatrists served as sources of referral for only small percentages of children from each racial/ethnic group. As one might expect, facilities and agencies were found to have served as sources of referral for the largest percentage of children from each racial/ethnic group. Larger percentages of Puerto Rican and black than white children were referred through agencies.

More reliable diagnostic and symptom profiles might have emerged if information regarding the percentage of Puerto Rican children recommended for treatment after the initial intake interview had been available. Knowledge of length and type of treatment could have been helpful also in assessing differential patterns of service and treatment modalities for the three groups of children.

Such an analysis of Puerto Rican children undergoing treatment, as well as their profile upon termination of treatment, would have enabled us to arrive at a more comprehensive assessment of their relative mental health.

5

Conclusions and Recommendations

The main hypothesis of this monograph is that Puerto Rican children experience a greater array of stress-inducing events than other children and, thus, they are at higher risk to mental health problems. Research lends support to the theory that major changes in the social environment increase susceptibility to a wide spectrum of health problems. Although the changes assume a variety of forms, they all disrupt the interpersonal relationships comprising the individual's system of social support. The weakening of this system increases the individual's vulnerability to illness. Our conceptualization of the factors leading to illness vulnerability contains the following sequence: social stressors, mediating factors, stress response, and vulnerability to illness.

In our report on the mental health situation of Puerto Rican children we examined socioenvironmental changes at two levels: events affecting large categories of groups or individuals and life-event changes specific to individuals. We identified factors which combine to mediate the individual's perception of stressful events and their impact. We believe the concept of stressful life events is useful in delineating the possible connections between the socioeconomic situation of Puerto Ricans and mental health problems.

Our findings show that various socioeconomic indicators, such as income, education, and unemployment, reveal Puerto Ricans on the United States mainland as a severely disadvantaged minority group. They are the least educated and least skilled subgroup in the population; they are hindered by language difficulties; they have the highest unemployment rate, the lowest-paying jobs, the lowest income, and the highest percentage of families living at or below the poverty level. Thus, the socioeconomic characteristics of Puerto Ricans living on the mainland render them susceptible to a series of stressful life events.

In addition to the sources of stress deriving from a low-

socioeconomic position, Puerto Ricans experience qualitatively new types of stress-inducing life events: the need to learn a new language; the impact of bilingualism upon information processing, memory, cognitive abilities, personality characteristics, and world view; prejudice and discrimination, adaptation to the impersonal terms of a bureaucratized society; the demands of an agitated daily cycle of life in an urban metropolis; and the tribulations of daily interaction with persons outside the ethnic group. This qualitatively new constellation of changes in life events experienced by mainland Puerto Ricans conspires to produce emotional stress, more so than in the case of a person whose trajectory of life-event changes is circumscribed by constancy of membership in one sociocultural system. In this new environment, the family -- the primary support network of the child -- and the school -- the two major social institutions expected to be mediate stress for children -- may lose themselves become sources of stress for the child and lose their value as social support networks. We do not suggest that all Puerto Rican families are equally at risk, nor do we suggest that the exposure to stressors results inevitably in the development of pathological conditions. We do conclude, however, that Puerto Rican children experience stress either directly or indirectly from the sources cited above and are at risk to problems of mental health.

A considerable body of research found that a disproportionate exposure to environmental risk factors leads to physical and mental health problems in children. Moreover, it was found that the rates of central nervous system damage/dysfunction, or its symptoms, varied according to social class position and ethnic group membership. Research also recognized that central nervous system disorders were associated with various forms of obstetrical pathology which were themselves related to social class and ethnicity. In children, neurological damage was found to be related to behavioral problems, learning disabilities, and lowered thresholds to stress. We conclude, therefore, that Puerto Rican children are at disproportionate risk to neurological insults during the prenatal and postnatal developmental stages.

The likelihood that such exposure will result in later health problems is dependent upon the subsequent experiences of the child. Children who were born prematurely or who suffered paranatal complications and who were then exposed to an inconsistent, unsupportive, and stressful environment are likely to fare very poorly. We affirm that a disproportionate number of Puerto Rican children are found in this group.

In order to ascertain the relative health status of Puerto Rican children, we examined the New York City Pupil Ethnic Census of all handicapped public elementary school children for 1977-78. The analysis revealed that the proportion of physically, emotionally,

and mentally handicapped Puerto Rican children is approximately what their proportion in the school system would predict, while black children are considerably overrepresented and white children are slightly underrepresented. More specifically, and contrary to expectations, among handicapped elementary school children, the prevalence of physically handicapped white children is greater than of Puerto Rican or black children. However, higher proportions of Puerto Rican and black children than white children are evaluated as mentally handicapped although white children are more likely than black or Puerto Rican children to be found in programs for the severely mentally retarded. Black children are slightly more likely than Puerto Rican or white children to be evaluated as emotionally handicapped. Nonetheless, Puerto Rican children are evaluated as being in need of programs for the severely disturbed more often than black children and considerably more often than white children. The picture the data present is complex. Difficult questions remain to be answered regarding the extent to which this information reflects the actual health status of the children or the institutional procedures through which these children are referred, evaluated, and placed in the respective programs.

Because research on the mental health of Puerto Rican children in New York City is scarce, we have brought together a number of studies which provide a tentative profile of the mental health of Puerto Rican adults. The studies indicate that the reported mental health of Puerto Rican adults is generally poorer than that of the non-Hispanic white adult population. These findings suggest that the mental health of Puerto Rican children is similarly poor.

We then attempted to construct a mental health profile of Puerto Rican children, relative to other New York City children, based upon data collected by all city mental health facilities during admission intake interviews for the fiscal year 1976-77. While we are aware that admission intake interviews may not necessarily reflect the true prevalence of mentally ill children, these interviews were the only tool we had available to us. The data show that the rates of reported admission interviews for Puerto Rican and black children are considerably higher than those for non-Hispanic white children, with the highest rates found among Puerto Rican children. All three groups of children -- white, black, and Puerto Rican -- have notable proportions reporting problems of social performance in school, social relations with family and others, inadequate intellectual development, anger and belligerence, agitation, anxiety, depression, and physical problems. In comparison to white children, Puerto Rican children demonstrated a higher frequency of symptoms in the categories of sleep and articulation problems, physical problems, inadequate intellectual development, problems with others in school, anxiety and fear, anger and belligerence, agitation and hyperactivity, and antisocial

activities.

In response to an item on the intake form regarding the severity of symptoms a slightly higher percentage of Puerto Rican than black or white children were characterized as not ill or only slightly ill. A higher percentage of black than Puerto Rican or white children was reported as either moderately or severely ill. For a considerably larger percentage of white than Puerto Rican or black children the severity of symptoms was left unreported.

A large proportion from each group was reported as not having prior psychiatric treatment. However, considerably higher proportions of Puerto Rican than white or black children had noninpatient treatment while proportions having prior inpatient treatment were similar for all groups.

Slightly larger proportions of Puerto Rican than white children were diagnosed during the initial interview as retarded, transient situational, and behavior disordered, while the proportion diagnosed as psychophysiologic was similar for all groups. A larger proportion of white than black or Puerto Rican children was left clinically undiagnosed after the admission interview.

As one might expect, mental health facilities and agencies served as sources of referral for the largest proportion of children from each racial/ethnic group. Larger proportions of Puerto Rican and black than white children were referred through agencies. The family served as the source of referral for larger proportions of white than Puerto Rican or black children, while private physicians and psychiatrists served as sources of referral for only a small proportion of children from each racial/ethnic group.

Although the information provided here represents only an initial and tentative effort to assess the mental health status of Puerto Rican children, we found considerable support for the hypothesis that Puerto Rican children in New York City are at high risk to mental health disorders.

Some of the recommendations found below arise directly out of the data discussed in these pages and are aimed at improving data-collection and diagnostic procedures, therapeutic modalities, and service-delivery methods. Other recommendations arise out of the paucity of information which became apparent as attempts were made to answer questions concerning the mental health status of Puerto Rican children.

Recommendation 1

> * *Those facilities which deal with children should plan, organize, and implement a program to collect physical health data about them.*

There is an almost total lack of comparative data on the

physical health of children in New York City. The data available allow only the most general and tentative conclusions regarding the physical health of Puerto Rican children in comparison to that of children from other ethnic groups. The need for the development of physical health profiles is closely linked to our concern, as stated in this monograph, for the mental health status of Puerto Rican children. First, mental health problems frequently have physical manifestations. Second, poor physical health may increase a child's vulnerability to stress and play a role in illness onset. Third, certain physical health problems are clearly associated with certain mental health problems.

The research cited in this monograph indicates that minority children are at disproportionate risk to suffer neurological damage or dysfunction. Neurological damage, in turn, is associated with learning and behavioral difficulties and other mental health problems. Research should evaluate the magnitude of these problems in children, especially high-risk minority children. At the same time, there is a need for programs which will minimize the occurrence of such dysfunctions in children and provide compensating and supportive elements which mitigate the effects of such conditions after they have occurred. The magnitude of these tasks is matched by the urgency of the need for such efforts. This information would greatly expand our knowledge of the problems impacting upon the mental health of Puerto Rican children.

Recommendation 2

> * *The collection of citywide and statewide mental health data which will provide accurate assessments of the mental health and facility-utilization patterns of the state's major racial/ethnic groups and the thorough reporting of demographic items to improve research and administrative functions.*

Although the information available from the New York State Department of Mental Hygiene's admission form (MS-5) is the best available source of data for group mental health patterns, there are methodological problems associated with this source. As indicated in Chapter 4, the major difficulty is the poor completion rate of the admission form. Clearly, this is a major source of potential bias which could seriously affect comparison rates between groups.

The failure to collect certain items of information presents a problem also. One result of this failure is that a considerable portion of the clients are judged to be of unknown ethnicity, and the lack of racial/ethnic identification is particularly acute among children. Another result is the considerable variation among

children regarding the extent to which ethnicity is unreported or improperly identified. This could be an especially critical problem for Hispanic groups: Puerto Rican children may not be properly identified and tabulated, and non-Puerto Rican Hispanic children may be misidentified and incorrectly tabulated as Puerto Rican.

It had been our intention to include in this chapter a recommendation for the improvement of the design and tabulation of this statewide interview form. However, the New York State Department of Mental Hygiene has recently discontinued this reporting system (MS-5), and no statewide alternative reporting system has yet been established. Although state-run facilities have been issued a new form and continue to report on all admissions, nonstate facilities, which make up the overwhelming majority of the system, are no longer required to report data on clients undergoing admission interviews. At the time of this writing, the New York State Department of Mental Hygiene is considering implementing a yearly roster check, of possibly one month's duration, to ascertain the characteristics of individuals undergoing admission interviedws. We urge the elimination of the inadequacies noted here.

Recommendation 3

> * *To undertake a program of research to evaluate and respecify the diagnostic procedures used in the evaluation, treatment, and placement of Puerto Rican children which must take place with a heightened awareness of their socio-cultural and life circumstances.*

The assessment of health or illness in minority populations is as controversial as it is difficult. The problem is further compounded when the minority persons are recent immigrants with a different culture and language. The assessment of health or illness, in terms of both degree and type, is affected by the client's use of his or her dominant or secondary language in reporting to the clinician those aspects of the personality which are functional or dysfunctional, the linguistic differences between therapist and client, and the cultural evaluations of desirability placed upon symptoms. Such problems may be more pronounced in the mental health evaluation of children. Puerto Rican children, therefore, confront the double risk of vulnerability to emotional and physical distress and misunderstanding or improper diagnosis of their mental health problems. Consequently, prognosis and treatment are subject to wide margins of error. Analogous problems are associated with the measurement of other attributes including

intelligence quotients. There is an urgent need to reexamine various diagnostic classification systems in terms of their validity for the Puerto Rican community.

Recommendation 4

> * *The development of culturally distinct, therapeutic intervention programs designed specifically for urban Puerto Rican children which will include an active research and evaluation component to measure the effectiveness of the programs and provide a data base for replicating the program design.*

We have presented material which demonstrates that a disproportionate number of Puerto Rican children are exposed to multiple stress factors. Since many of these factors are socioenvironmental in nature, a proper program of treatment should strive to diminish the external sources of stress on such children before they have been so chronically present that the child adopts inflexible and dysfunctional styles of coping. There should be multifaceted and wide-ranging programs from a macrogoal of elevating social and economic position to specific aims such as the development of a system of preventive medical care, especially prenatal and pediatric care. Any type of treatment with people of a different cultural group must distinguish between capacities that reflect neurological deficit from those that reflect class identity; distinguish perceptual ability from attentional habits that are culturally determined; and identify the differences between the intellectual capacity and verbal characteristics of a group. To assess any individual child it is essential to know both the group characteristics and the variations within the group, since child behavior may vary significantly with the nature of the environmental situation or demand. By recognizing the cultural heritage and ethnic identity of Hispanics, these programs would serve as the first step in the development of adequate prevention and treatment programs for Puerto Rican children.

Many types of therapeutic intervention programs should be utilized both individually and in clusters. A unique therapy modality geared to Puerto Rican children in the South Bronx, the Unitas Therapeutic Community, is now being studied by the Hispanic Research Center. This modality is characterized by an active outreach program offering daily recreation in arts, crafts, and sports during the summer and in afterschool programs during the rest of the year. Unitas utilizes older teenagers as surrogate parents and trains them in psychological theory and clinical skills.

Children from disorganized family networks thus experience a corrective and healthy surrogate family climate in which there are supervised, therapeutically oriented interactions.

The fact stands, however, that there are not sufficient research data to measure the effectiveness of treatment approaches. What clearly should characterize them all is a mediation of external stress factors by active family, school, and community interventions in order to allow the program to work with the child's own temperamental or internal vulnerabilities. The most effective therapeutic technique is one that considers the particular cultural and socioeconomic variables of the client population.

Recommendation 5

> • *To institute comprehensive and multidisciplinary service-delivery systems especially designed to serve Hispanic children. Such service-delivery systems should be easily accessible and culturally sensitive to the Hispanic community and include outreach programs and preventive intervention modalities.*

The close relationship between social, psychological, and biological stress factors in the Hispanic child population requires a comprehensive, multidisciplinary approach in a service-delivery system. In view of the fact that young Hispanics are increasing proportionally to the rest of the population, there is an urgent need for more and improved service-delivery systems. Ideally, such systems would be involved in fostering support networks in the community and would actively incorporate families and schools. Since it is our view that the chronic impact of stress through developmental stages places Puerto Rican children in vulnerable positions, programs designed to follow these children throughout their growth are necessary.

Service-delivery centers working with the Puerto Rican population should be located directly within the neighborhood being served or should be easily accessible to available transportation, preferably in an area where there are other service providers. Specific programs should be developed within the service-delivery system, such as early accessibility to clinic "drop-in" rooms where patients can come without an appointment at a moment of crisis. Service-delivery systems in Hispanic communities should be staffed by bilingual and bicultural personnel, preferably from the community being served. Advisory boards of service agencies should include more members of minority groups. Outreach programs are needed in order to locate individuals in need of service. Service-delivery systems should include a

preventive intervention component which would identify harmful influences in the environment. Such programs should deal with the need of community members within the context of their own value system and lifestyles.

Recommendation 6

- *The planning and execution of descriptive epidemiological studies to determine the prevalence, type, and concentration of mental health problems affecting Puerto Rican children.*

The only citywide and statewide data capable of providing a mental health profile of Puerto Rican children derive from admission interview records in the facilities certified to serve children, but, as we indicated in our discussion of the MS-5 interview form used by the New York State Department of Mental Hygiene, these data are incomplete. However, even if they were complete they would be relevant only to the *treated* prevalence of the mental health problem being presented at the agency, not to the *true* or *actual* prevalence of the problem in the population of Puerto Rican children. Many factors shape the paths that families and individuals follow in seeking solutions to mental health problems. Thus, in addition to the mental health problem itself, rates of treated prevalence reflect the intertwining of psychological, social, economic, and cultural factors in the community.

There is a need for epidemiological studies which will reveal the true prevalence of mental health problems in the Puerto Rican population in general and Puerto Rican children in particular. There is no data available on the many social problems that have mental health implications such as drug and substance abuse, juvenile delinquency, and child abuse, or on the suspected high prevalence of physically injurious accidents among Puerto Rican children. The general lack of emphasis on descriptive epidemiological studies of mental health in recent years and the strong emphasis on analytically oriented research should not blur the simple but important fact that with respect to certain populations descriptive data are of singular utility for both social policy and practice. Such data would reveal the magnitude and nature of the mental health problem and its differential concentration in the broader structure of the Puerto Rican population according to socioeconomic, generational, and regional differences. Descriptively oriented epidemiological studies represent the point of departure for analytical research which seeks to identify the source of a mental health problem. In the absence of

such research it would be difficult, if not impossible, to address the collective mental health needs of Puerto Rican children.

Recommendation 7

> * *A series of studies should be conducted to trace the complicated interrelationships among migration, mental health, and institutional supports available to migrants. These studies should take as their point of departure Puerto Rico itself and, perhaps, as their point of termination the return migration from the mainland to the island. These studies should seek to identify the way in which Puerto Rican children's emotional stability is affected by the migration process and how the variable stability of the institutions which play a role in the child's life mediate or create stressful life experiences.*

The special stresses that accompany the process of migration have been of particular significance to Puerto Ricans because of critical differences in the culture and values of the migrants and the host society. The situation of Puerto Ricans in the United States has unique characteristics: they may travel to the mainland without restrictions; however, as they migrate to the mainland, they must make profound psychological and sociocultural adjustments. Puerto Rican families experience the effects of low income, unemployment, underemployment, undereducation, poor housing, prejudice and discrimination, and cultural/linguistic barriers, as well as the effects of low quality and quantity of mental health services. This situation has perpetuated undue stress on Puerto Rican families and often results in deleterious consequences for the children of these families.

Much of this monograph has focused upon the sensitive interconnections between migration and mental health. A great deal of research has been conducted on this relationship, but as the sample of the literature reported in Chapters 1 and 2 indicates, most of this research has incorporated ambiguities that make the findings of studies inconclusive and difficult to interpret. Thus, we still do not know, for example, the extent to which migrants self-select themselves according to mental health variables and/or the extent to which the migrant's experience itself is stress-inducing.

We may not even know how to pose the appropriate questions. It may be that research, instead of focusing upon the relationship between migration and mental health, should focus on the relationship between sociocultural systems of the exporting and the host societies, on the socioeconomic characteristics of the migrant, and on the supportive networks which are brought from the point

of origin, made available in the host society, or created anew by the migrant.

Children are usually involuntary migrants insofar as they move with adults or families, yet they may be affected in very profound ways by migration. The experience of migration is basic to the Puerto Rican family on the mainland and, therefore, migration is also an organic part of the Puerto Rican child's experience on the mainland.

Recommendation 8

> * *A programmatically integrated series of studies should be conducted, organized according to the main socioeconomic and cultural factors affecting Puerto Rican life on the mainland, focusing upon the socialization of Puerto Rican children on the mainland to identify how the family, the school, peer groups, and other institutions shape their character and orientation.*

Social development begins at birth and ends with death, but there is a crucial period in the child's early life during which the "social self" begins to be formed. In most cultures, the parents are the main socializing agents. The environment of the family is a specific and sharply focused influence because it filters and concentrates prevailing cultural standards. The depth of the family's influence is altered by several factors: socioeconomic status, religious and political institutions, and the mass media, all of which condition how the child comes to regard the world around him and what is seen as desirable. In his early development, the child learns to make his impulses more social. He absorbs rules about property, the rights and welfare of others, and the postponement of gratification of desires. When the child goes to school, peer groups take on an increasingly important role in many areas of development. Biological differences set the stage for sex-role development. To a varying degree, parents convey their own concepts of appropriate sex-role behavior -- how one should relate to others of the same sex and of the opposite sex, and what kinds of work are undertaken by each.

Although the socialization experience is a vitally important aspect of the child's development process, next to nothing is known of the socialization experiences of Puerto Rican children on the U.S. mainland and how such experiences are related to their health conditions. There is a pressing need for research to investigate the inculcation of values and attitudes in the Puerto Rican child and what these values and attitudes are. In general, we

should study which values are being retained from traditional Puerto Rican culture and how effectively they function in a new setting.

There is a clear need to establish the conditions under which Puerto Rican children are rewarded and punished in relation to the value structures into which they are socialized. We need studies which capture the main themes and modalities in the socialization of Puerto Rican children at different class levels especially in regard to the dimensions of such experiences which may be particularly stress-inducing. These studies should also attempt to determine the way in which external bureaucratic systems, such as the educational system, the health system, and the social services system, impact upon the socialization of the Puerto Rican child.

Recommendation 9

> * *Research should be conducted which would evaluate, for the Puerto Rican population of New York City, the mental health implications of perception of economic stagnation in a society which stresses economic success. Such studies should document the extent to which the Puerto Rican population is becoming socially isolated as well as the mental health implications of such isolation.*

Puerto Ricans living on the mainland are at the bottom of the socioeconomic ladder. They not only have the least desirable jobs but also the lowest incomes of all ethnic groups in New York City. The fact that Puerto Rican families are larger than average brings their per capita income even further below other groups. During the past decade, the income position of Puerto Ricans deteriorated in comparison with the rest of the population, including blacks and other Hispanic groups. About one third of New York City Puerto Ricans live at or below the poverty level, and the gap between Puerto Ricans and the total population is steadily widening.

We have already noted that lower social-status groups experience more events which may be termed social losses than do other groups and that this disproportionate exposure appears to be associated with increased risk of mental health problems. It is to be expected then that the high rate of poverty among Puerto Ricans on the mainland means that their children are at high risk in areas of nutritional, physical, and psychological health.

The Puerto Rican child learns at an early age that his role in relationship to most social institutions differs from that of other children; he learns that members of his ethnic group are likely to

live in the least desirable sections of town and are subject to inadequate housing, schooling, and health facilities; the unemployment and underemployment of the adults around him do not provide an incentive to prepare for a career. By the time he reaches adulthood, he realizes that the opportunity channels of the greater society are not as accessible to him as they are to other groups. This process is in need of careful analysis because of its serious mental health implications for Puerto Rican adults and children, not only in terms of their perception of their social position, but also in terms of their actual ability to procure adequate mental health care.

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